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PREVENTION INITIATIVE
FOR
ENVIRONMENT CANADA

SMALL QUANTITY HAZARDOUS WASTE GENERATORS IN HAMILTON, ONTARIO

Contract # KA401-1-0648/01-XSE

STAGE 2B SUMMARY REPORT

October 1992

**R. CAVE AND ASSOCIATES LTD.
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January 11, 1993

Hamilton Public Library
P.O. Box 2700
Station A
Hamilton, Ontario
L8N 4E41

Attention: Ms Wendy Newman

Dear Ms Newman:

Please find enclosed one (1) copy of the Stage 2b Summary Report (October 1992) for Environment Canada's **Study of Small Quantity Hazardous Waste Generators**. This report is a summary of data collected from "one-on-one" surveys of businesses within the Regional Municipality of Hamilton-Wentworth.

The Summary Report is being used in order to form conclusions as part of a *management plan* for **Small Quantity Generators** (in the U.S. - CESQG's).

One of the aims of the *management plan* is to create a sustainable network of information "pathways", which can be utilized in order to access new information on pollution prevention opportunities and get this information in the hands of **Exempt Small Quantity Generators**. The stakeholders of the network will include: business associations, suppliers and manufacturers, waste management companies, consumers, government, financial institutions and insurance companies.

If you have any questions, comments, or ideas pertaining to the project, or if you have information related to networking or technical assistance programs, please do not hesitate to call.

Yours truly,

R. Cave and Associates Engineering Ltd.

Eric T. Hopkins, P.Eng.
Project Technical Coordinator

ETH/h

enclosure



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October 27, 1992

Our File: 148-10-01

Environment Canada
25 St. Clair Avenue East
6th Floor
Toronto, Ontario
M4T 1M2

Attention: Ray Rivers
Chief
Pollution Prevention Branch
Conservation and Protection - Ontario Region
Environment Canada

Reference: Small Quantity Hazardous Waste Generator Study
Stage 2b Summary Report

Dear Mr. Rivers:

R. Cave and Associates Ltd. is pleased to submit five (5) copies of the Stage 2b Summary Report of the Small Quantity Hazardous Waste Generator Study. This report is the culmination of the joint efforts of the Survey Field Staff and the Pollution Prevention Information Line Staff to perform Stage 2b, the survey portion of the project.

Should you require any additional information regarding the enclosed, please feel free to contact us.

Yours truly,

R. CAVE AND ASSOCIATES LTD.

Richard Cave, P.Eng.
President

Enclosure



**POLLUTION PREVENTION INITIATIVE
FOR
ENVIRONMENT CANADA**

SMALL QUANTITY HAZARDOUS WASTE GENERATORS

STAGE 2b SUMMARY REPORT

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1.0 INTRODUCTION

This report presents a summary of Stage 2b of the *Small Quantity Hazardous Waste Generators Demonstration Project* in Hamilton, Ontario. This demonstration project has been developed by **R. Cave and Associates Ltd.** as part of Environment Canada's Great Lakes/St. Lawrence Basin Pollution Prevention Initiative. The Initiative is to result in the development of 'Pollution Prevention Strategies' and 'Action Plans' that will meet the federal government's target to virtually eliminate the discharge of persistent toxic substances into the Great Lakes eco-system by the year 2000.

This project is a specific Pollution Prevention Initiative, which was developed to determine the quantities of hazardous waste generated by small quantity hazardous waste (SQHW) generators and to determine their current disposal practices. Although each of these generators only legally produces a small amount of hazardous waste, the cumulative effect of their production will undermine efforts to virtually eliminate toxic material discharge into the Great Lakes.

The overall goal of this project is to develop a program which will minimize or eliminate toxic wastes generated by SQHW generators through an information exchange focusing on waste minimization (i.e., reduction, reuse, product substitution, and recycling) and proper disposal practices. Based on a waste stream characterization analysis of residential wastes being collected in the City of Guelph, R. Cave and Associates Ltd. have determined that the SQHW generation rate could represent over twice the rate of hazardous waste being generated by households; therefore, the goals of this project are to:

- Obtain information on the quantities of targeted pollutants disposed into the ecosystem by SQHW generators within the entire City of Hamilton.
- Educate SQHW generators on the benefits of and opportunities for safe waste disposal.
- Potentially demonstrate the expanded use of the existing Regional Municipality of Hamilton-Wentworth Household Hazardous Waste Program by SQHW generators within the City of Hamilton.
- Encourage an understanding of bi-lateral Great Lakes contamination issues.

The objectives of the study are to:

1. Identify, classify and quantify hazardous wastes being generated by unregulated SQHW generators.
2. Document present disposal practices.

3. Determine and demonstrate methods of reducing, reusing or substituting these materials with less hazardous substances.
4. Evaluate the effectiveness of educating businesses through reduction, reuse, recycling and substitution methods.
5. Demonstrate the viability of collection systems for SQHW generators.
6. Identify existing SQHW management methods; potential non-hazardous substitutions, or alternative best management methods; and barriers to implementing the best management methods.
7. Develop a credible SQHW data base for use by the Region of Hamilton-Wentworth, Ontario MOE, Environment Canada, and the U.S. EPA.
8. Demonstrate the effectiveness of various SQHW management initiatives as they are applied, by measuring the "base case" effluent discharge characteristics from a single, well-defined "sewer-shed", then monitoring on-going effluent characteristics as various initiatives are introduced.

In Stage 1, an analysis of industries in the City of Hamilton who have the potential to generate small quantities of hazardous waste was undertaken; a survey was designed to obtain quantitative and qualitative information and was field tested; information materials were designed; and educational materials were developed. Also, a literature review of SQHW generator studies in Canada and the U.S. was initiated, which will be continued throughout the duration of the study.

In Stage 2a of the project, the final preparations for delivering the survey were completed, which included:

1. Statistical determination of survey data.
2. Installation of a Small Quantity Hazardous Waste Pollution Prevention Information Line.
3. Final development, approval and printing of education outreach materials.
4. Final development of computer program.
5. Training of field personnel (surveyors and information line operators).
6. Development of a program for the safe disposal of hazardous waste from small quantity generators.

Stage 2b - Survey Delivery and Analysis has involved performing the actual surveying of potential Small Quantity Hazardous Waste generators. In order to accommodate all of the businesses who were asked to participate, the surveying was divided into two "rounds". An Interim Report (July 1992) was prepared between the first and second round of surveys.

This summary report outlines the tasks undertaken in all of Stage 2b - Survey Delivery and Analysis of the project. The report has been produced in order to summarize data obtained and observations made during the entire survey process, as well as, questions, comments and concerns received on the "Information Line". The following tasks have been completed, and are discussed in more detail in the following sections:

1. Operation of Pollution Prevention Information Line,
2. Distribution of Educational Materials,
3. Performance of the entire Survey of Potential Small Quantity Hazardous Waste Generators, and
4. Summary Report on Information from Survey.

1.1 OBJECTIVES OF STAGE 2b

The objectives of Stage 2b are as follows:

- Operate the "Pollution Prevention Information Line" for businesses;
- Send out Information Bulletins to business associations for inclusion in their newsletters;
- Mail Information Bulletins and introduction letter to all of the selected businesses to be surveyed;
- Administer the survey to randomly targeted potential SQHW generators;
- Input the survey data into a computer file; and
- Analyze the data using the dBase IV computer program.

2.0 POLLUTION PREVENTION INFORMATION LINE

During Stage 2b - Survey Delivery and Analysis, numerous telephone calls were received on the Pollution Prevention Information Line; however, none of the calls have been with regard to possible Pollution Prevention needs or options. Virtually all of the calls received were for purposes of setting up or re-scheduling survey interview dates or times.

Observations during this stage suggest that, while a toll-free telephone line is a valuable communications link, it is not an effective way of conveying information to the majority of businesses. Small businesses do not appear to have the time to call, nor will they follow up on the information line, unless face-to-face contact is made with a surveyor.

3.0 DISTRIBUTION OF EDUCATIONAL/PROMOTIONAL MATERIAL

3.1 DISTRIBUTION THROUGH CHAMBER OF COMMERCE

A total of 2,000 Information Bulletins was distributed to businesses in the City of Hamilton and surrounding area by the Hamilton Chamber of Commerce. As a result of the distribution, one telephone call was received on the Pollution Prevention Information Line (PPIL) from the Hamilton Review, which inquired about the possibility of inserting the Bulletin in the magazine for distribution to the circulation of approximately 10,000 businesses.

The Hamilton Chamber of Commerce has confirmed that no communications pertaining to the Pollution Prevention demonstration project were received by them from businesses.

It is apparent from the lack of telephone calls during the performance of Stage 2b - Survey Delivery and Analysis, that the distribution of the Bulletin through the Chamber of Commerce was not effective in arousing interest about the demonstration project among businesses in the study area.

3.2 DISTRIBUTION TO BUSINESS ASSOCIATIONS

Copies of the Information Bulletin and the Information Booklet were distributed to over 100 business associations throughout Ontario in May 1992. A total of 5 responses has been received as of October 15, 1992.

After receiving correspondence from the Automotive Aftermarket Retailers of Ontario (AARO), the Automotive Industries Association (AIA) was contacted. Two hundred (200) copies of the Information Booklet were forwarded for insertion into copies of the AIA's *Waste Management Guidelines*.

Based on this response, it has been observed that the distribution of the Bulletin and the Information Booklet to the associations has only been marginally effective in transferring information to business associations regarding hazardous waste management methods being employed within their business sector.

An information brochure on 'Paint Disposal' was received from one of the businesses surveyed. The brochure was produced by the Canadian Paint and Coatings Association (CPCA). The CPCA has produced a number of informative publications regarding paint disposal, and is currently pursuing paint recycling options.

3.3 MAILING OF REGISTERED LETTERS TO SELECTED BUSINESSES

A total of 456 Registered Letters was mailed to the selected businesses between May 6th and July 8th, 1992. Of these, a total of eighty-eight (88) were returned due to either the company being out of business or moving without leaving a forwarding address.

Approximately two per-cent of businesses responded to the registered letter by calling the Pollution Prevention Information Line, which was highlighted in the Information Bulletin. Generally, businesses which called had received a letter, but were now "out-of-business". Some of these businesses were still willing to be surveyed with regard to the businesses they were closing, or had recently closed.

3.3.1 CONCERNS OVER THE COST OF REGISTERED LETTER

There was some limited concern raised by recipients with regard to the expense involved with sending the Letters of Introduction by registered mail, as opposed to regular mail. Two businesses noted the expense involved with sending registered letters. One of these businesses suggested that a telephone call alone would be sufficient to introduce the project and schedule an interview; however, the vast majority of businesses that were contacted by telephone after the mailing remembered the letter and its contents, in part because it came via registered mail.

4.0 SURVEY RESULTS

4.1 RESPONSE RATE

Tables 4.1 and 4.2 present summaries of responses to the Stage 2b - Survey Delivery and Analysis.

TABLE 4.1

SQHWG STUDY
Summary of Responses To Survey

SELECTED BUSINESS CLASSIFICATION	Number of Businesses	Percentage of Total Businesses
Total Number of Businesses Contacted	458	100%
Number of Returned Letters	88 (all were processed further)	19.2%
Number of Businesses "out-of-business"	91	19.9%
Number of "Surveyed" Businesses ¹	241	52.6%
Number of "Unobtainable" Businesses ²	84	18.3%
Number of "Non-Surveyable" Businesses ³	42	9.2%

4.1.1 PROCESSING OF RETURNED LETTERS

In total 19.3% of the Registered Letters were undelivered, not claimed and subsequently returned. Each Registered Letter which was returned was followed up with a telephone call to that business. If the number had changed, a further telephone call was made until the business was reached. Where the telephone number was no longer in service, directory assistance was contacted to determine if a new telephone number was available. Where possible the original letters were sent to the corrected address. The delivery of the letters was followed up with a telephone call to schedule an interview. Consequently, businesses which might otherwise have been missed were surveyed. Businesses whose Registered letters were returned and which could not be located have been included under the "out-of-business" category.

¹ "Surveyed" businesses include: businesses which completed the survey, businesses with no hazardous waste, and businesses where the surveyor was unable to complete the survey.

² "Unobtainable" businesses are those businesses which, after contact by telephone and follow-up calls, could not make time for the survey.

³ "Non-Surveyable" businesses included businesses not interested, too busy, no longer operating, relocated, incorrectly classified by SIC Code and businesses which operate under more than one name.

Table 4.2
Distribution of Businesses Surveyed by SIC Code

Standard Industrial Classification Code	Number of Businesses Surveyed in SIC Code	Number of Employees in Surveyed SIC Code	Description of Standard Industrial Classification
0742	5	18	Veterinary services, specialties
0782	5	21	Lawn and garden services
1611	1	15	Highway and street construction
1623	2	16	Water, sewer, and utility lines
1711	2	5	Plumbing, heating, air-conditioning
1721	2	2	Painting and paper hanging
1743	3	6	Terrazzo, tile, marble, mosaic work
1751	1	1	Carpentry work
1794	2	5	Excavation work
2434	3	10	Wood kitchen cabinets
2542	1	62	Partitions and fixtures, except wood
2752	2	10	Commercial printing, lithographic ✓
2759	4	18	Commercial printing, nec ✓
3229	1	2	Pressed and blown glass, nec
3253	2	19	Ceramic wall and floor tile
3443	1	30	Fabricated plate work (boiler shops)
3479	3	4	Metal coating and allied services
3541	1	12	Machine tools, metal cutting types ✓
3692	1	5	Primary batteries, dry and wet
3732	1	1	Boat building and repairing
3843	1	5	Dental equipment and supplies
3911	1	9	Jewelry, precious metal
3942	1	3	Dolls and stuffed toys
3993	1	15	Signs and advertising specialties
4212	7	41	Local trucking, without storage
4215	4	47	Courier services, except by air
4225	1	3	General warehousing and storage
4231	1	22	Trucking terminal facilities
4432	1	35	Freight trans. on the Great Lakes
5012	2	6	Automobiles and other motor vehicles
5032	1	33	Brick, stone, & related materials
5092	1	1	Toys and hobby goods and supplies
5093	3	13	Scrap and waste materials
5211	2	8	lumber and other building materials
5231	4	25	Paint, glass, and wallpaper stores
5251	5	17	Hardware stores
5261	3	25	Retail nurseries and garden stores
5311	3	177	Department stores
5399	4	54	Misc. general merchandise stores
5411	1	110	Grocery stores
5511	5	8	New and used car dealers
5521	3	4	Used car dealers
5531	2	6	Auto and home supply stores
5541	2	4	Gasoline service stations
5551	1	1	Boat dealers
5561	1	2	Recreational vehicle dealers
5571	3	12	Motorcycle dealers
5599	1	5	Automotive dealers, nec
5713	1	1	Floor covering stores

Table 4.2 – Continued

Standard Industrial Classification Code	Number of Businesses Surveyed in SIC Code	Number of Employees in Surveyed SIC Code	Description of Standard Industrial Classification
5941	3	15	Sporting goods and bicycle shops
5945	3	9	Hobby, toy, and game shops
5946	5	28	Camera & photographic supply stores
5949	1	12	Sewing, needlework, and piece goods
5999	4	11	Miscellaneous retail stores, nec
7216	3	25	Drycleaning plants, except rug ✓
7217	1	1	Carpet and upholstery cleaning ✓
7221	4	6	Photographic studios, portrait
7231	3	8	Beauty shops
7251	4	5	Shoe repair and shoeshine parlors
7261	2	10	Funeral service and crematories
7291	1	2	Tax return preparation services
7311	3	52	Advertising agencies
7312	3	21	Outdoor advertising services
7334	3	12	Photocopying & duplicating services
7335	1	1	Commercial photography
7336	2	6	Commercial art & graphic design
7342	3	18	Disinfecting & pest control services
7349	2	7	Building maintenance services, nec
7353	3	25	Heavy construction equipment rental
7384	3	6	Photofinishing laboratories
7389	1	2	Business services, nec
7513	1	2	Truck rental and leasing, no drivers
7514	4	39	Passenger car rental
7519	2	6	Utility trailer rental
7532	4	32	Top & body repair & paint shops ✓
7534	1	3	Tire retreading and repair shops
7537	5	18	Automotive transmission repair shops ✓
7538	11	28	General automotive repair shops ✓
7549	1	1	Automotive services, nec
7631	3	6	Watch, clock, and jewelry repair
7641	2	4	Reupholstery and furniture repair
7699	1	87	Repair services, nec
7922	3	21	Theatrical producers and services
7929	2	10	Entertainers & entertainment groups
7991	1	2	Physical fitness facilities
7992	1	15	Public golf courses
7996	1	4	Amusement parks
8011	4	15	Offices & clinics of medical doctors
8021	4	32	Offices and clinics of dentists
8071	4	100	Medical laboratories
8072	3	27	Dental laboratories
8211	2	46	Elementary and secondary schools
8221	3	112	Colleges and universities
8249	2	7	Vocational schools, nec
8412	7	41	Museums and art galleries
8731	1	4	Commercial physical research
8999	1	2	Services, nec

4.1.2 USE OF REGISTERED MAIL

The use of Registered mail allowed for all randomly selected businesses to be tracked and quantified. Apparent inconsistencies with the business directory were noted both in terms of businesses which had been out of business for a number of years, and incorrect Standard Industrial Classification codes.

4.1.3 CHANGES IN BUSINESS STANDARD INDUSTRIAL CLASSIFICATION CODES

Of the 241 businesses which responded to the survey, it was found that thirty-two (32) Standard Industrial Classification codes were not representative of the actual business operations. Changes were made in order to correct a business' SIC code as required.

There were three principal reasons necessitating changes to SIC codes:

1. changes in the business' scope of work,
2. inherent inadequacies in the Standard Industrial Classification system (both U.S. and Canadian), and
3. possible misinterpretation in the business directory listing.

Although many business directory listings use the U.S. SICs, as it is a recognized and standardized system, some businesses were difficult to classify or fell into a catch-all "not-elsewhere-classified" code. An example of this is SIC 7699 - *Repair Services nec*, which includes such seemingly dissimilar industries as: awning repair, horseshoeing, and industrial truck repair.

4.2 BUSINESS RESPONSES AND SURVEY RESULTS

4.2.1 REACTION TO RANDOM SELECTION

A number of businesses asked how they were selected for the survey. The selection methodology was explained and most of businesses found the process to be acceptable.

4.2.2 "SUSPICIONS" RAISED BY LETTER OF INTRODUCTION

All respondents in one particular business sector were "suspicious" of the survey as not being a "Random Sample". People in this business sector suggested that their entire industry was being targeted. One person suggested that the surveyors were "spies" for the government. In fact, data show that seven of eleven, or 64% of businesses in this sector were selected for participation in the demonstration project survey. Of the seven businesses selected, five were surveyed, while the remaining two businesses had to be classified as "Unobtainable".

4.2.3 REACTION TO SURVEY

The initial reaction to the survey was generally favourable; however, some of businesses wanted to "get it over with" as quickly as possible. As the survey was being performed, business people typically began to understand and appreciate that the survey was an opportunity for information exchange. Many of the business people, including those who at first wanted to get through the survey quickly, ultimately seemed to enjoy the opportunity to discuss the waste management problems in their particular industrial sector with knowledgeable personnel. The duration of surveys varied from 15 minutes for a business with no hazardous waste, to over 4 hours for a business that was extremely interested in applicable waste management opportunities. The average duration of surveys was between 1.0 and 1.5 hours.

The field personnel were, for the vast majority of surveys, very well received as being people with a good general knowledge of business activities, as well as a good knowledge of hazardous waste management priorities and options.

Generally, business people were not aware of how different waste management options could be applied to their firm. Question 24, *Would your business be prepared to implement the following waste management techniques*, was extremely good at getting the business persons to summarize what their business is doing at the present time, and what they feel is achievable in the future. Many business people determined that some waste management options were "not applicable" as no realistic waste management options were attainable. (replacing the internal combustion engine was not an option available to service stations)

It was observed that specific waste management options for the vast majority of businesses need to be better defined.

Some businesses expressed concern that many of the questions had considerable overlap and appeared to be redundant; however, after the rationale for the questions was explained, all of the businesses appeared to be satisfied.

One business declined to answer questions 35 to 37 as these questions were perceived to be "philosophical", and easily misinterpreted.

4.2.4 QUESTIONS AND RESPONSES

A summary of questionnaire responses is given in **Appendix A - Survey Results**. A number of questions have been highlighted below in order to better qualify survey responses.

4.2.4.1 QUANTIFYING HAZARDOUS WASTE GENERATORS

The quantity of hazardous waste generated by surveyed businesses was classified into one of three categories: (1) no hazardous waste (41.3%), (2) generation below the small quantity exemptions for hazardous waste, liquid industrial waste, spill cleanup materials and containers in Regulation 309 (36.3%), and (3) above the exemption limit (22.5%). Hazardous wastes which are managed

in a potentially questionable manner, of both less than, and in excess of 5kg per month (60kg per year), are highlighted in **Appendix A - 9 - Potentially Questionable Waste Management Methods**.

4.2.4.2 GENERAL PROBLEMS ASSOCIATED WITH HAZARDOUS WASTE

The general lack of knowledge of different hazardous waste management options was the most commonly stated problem, being included in 23.2% of the responses. Over 18% of those surveyed stated that there were no hazardous waste management problems in their industrial sector. The typical reason given for this was that the quantities were very small. Other problems included: the overall cost of hazardous waste management, and inequitable pricing by certain waste management companies. **Figure 4.1** shows the most common answers to Question 18: *In your business, what do you think are the greatest problems associated with hazardous waste management?* "Other" responses included: the need for enforcement, alternatives, and options, and the associated cost of hazardous waste management.

4.2.4.3 WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM (WHMIS)

The vast majority of businesses stated that they recognized WHMIS warning labels on containers of hazardous materials; however, many of the businesses surveyed were not aware of what WHMIS or the associated legislation are, let alone knew what material safety data sheets are, and even fewer had taken, or have available, training courses in WHMIS.

Business people's knowledge of WHMIS was dependent on many factors, such as: individual interest, directives from head office, and suppliers' information.

4.2.4.4 RESPONSIBILITY, REGULATIONS AND FUNDING

Questions 35 to 37 ask the business: *how should hazardous waste management be funded, how should it be regulated, and who is **most** responsible for hazardous waste management?*

Some of those surveyed understood the difficulty in answering Questions 35 to 37, and Question 37 in particular, due to the number of parties, with differing vested interests, involved in production and management of hazardous materials and hazardous waste.

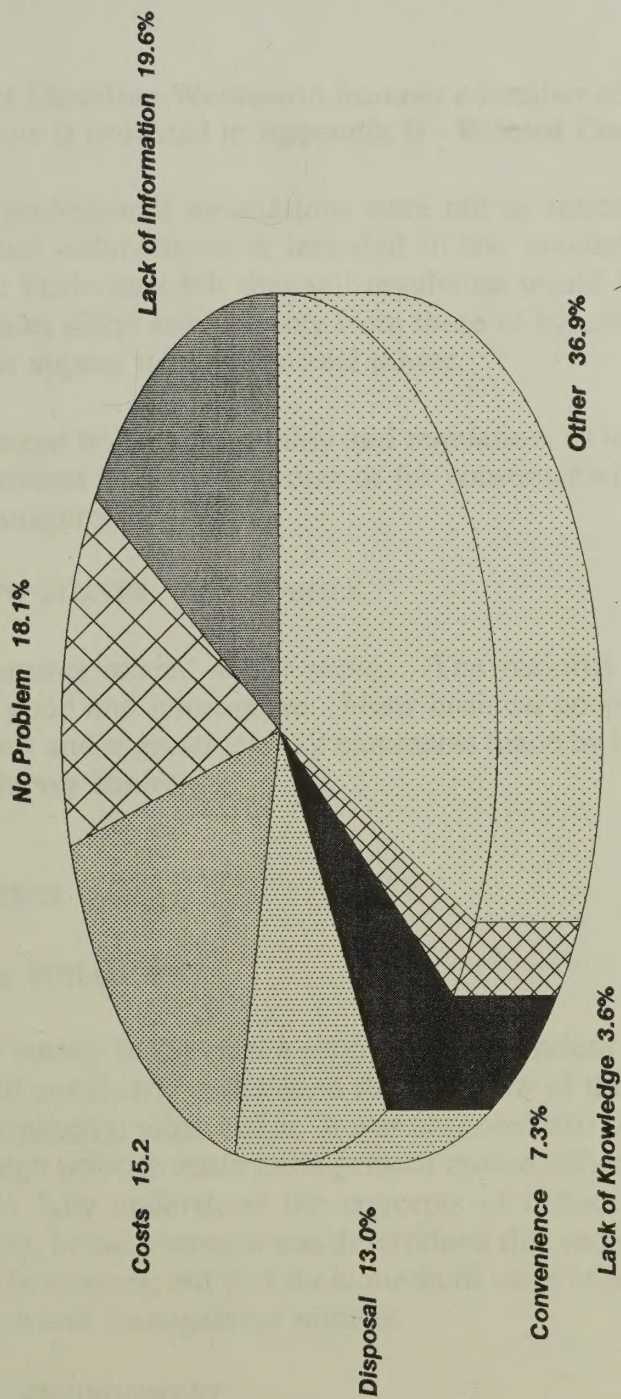
Over 57% of businesses stated that the user should pay for the management of the material, that government should regulate the management, and that the user is the most responsible individual (see **Figure 4.2** for analysis of Question 35, and **Appendix A - Survey Results** for analysis of Questions 36 and 37). Some interesting comments were received on the issue of who should fund hazardous waste management, relating to the suggestion that manufacturers should charge a fee on all their products, which would go towards the funding of 3Rs hazardous waste management programs for those products.

The issue of regulation of hazardous waste was raised by Question 36. Some businesses suggested the possibility of cooperation between industry and government for the development of potential

FIGURE 4.1

QUESTION 18

..., what do you think are the greatest problems associated with hazardous waste management?



Note: Total greater than 100% due to combined answers

regulations. Aside from businesses with professional associations, the vast majority of businesses mentioned the need for enforcement in order to keep everyone on a "level playing field". Businesses in licensed sectors, such as some contractors, generally felt that "other businesses" were operating without licenses.

The Regional Municipality of Hamilton-Wentworth licences a number of business operations. A list of licensed business sectors is provided in **Appendix B - Related Correspondence**.

In general, businesses with professional associations were not as concerned over the need for enforcement. Regulation and enforcement is included in the mandate of most professional associations. Many of these businesses felt that self-regulation would be successful across the entire industry. These attitudes differ considerably from those of voluntary business association members, whose associations appear to wield no real power.

Business appears ready to accept both responsibility and regulation, as long as it applies fairly to everyone. It appears that business feels the end-user or the consumer will ultimately have to pay for better environmental management.

4.2.4.5 COMMENTS TO SURVEY AS A WHOLE

Question 42 asked for *comments related to the survey*. The majority of businesses surveyed considered the survey to be good and informative. Many business people were pleased to have someone ask for their opinions and suggestions. All comments made by business people surveyed are given in **Appendix A - Survey Results**.

4.3 BUSINESS ATTITUDES

4.3.1 KNOWLEDGE OF 3Rs PHILOSOPHY

After the completion of the survey phase of the project, it was evident that the majority of the small businesses surveyed did not clearly understand the hierarchy of the 3Rs: Reduction, Reuse and Recycling, plus product/material substitution. It was observed that many business people felt that recycling was the only high priority waste management option, other than disposal. Many of the business people did not fully understand the concepts of reduction and reuse, as waste management options; however, in many cases it was determined that reduction and reuse methods were being employed by the businesses, but that these methods were regarded as normal business practices instead of positive waste management options.

4.3.2 CONCERN FOR THE ENVIRONMENT

Information on environmental concerns appears everywhere, from advertising and newspapers, to daily television newscasts. Almost every business person contacted, either by telephone or by interview, expressed concern about the present state of the environment, as well as its future well-being.

In some cases, the concern for the environment was excessive, with a "sky-is-falling" syndrome evident. One respondent stated that he "would just like to see fish swimming in Hamilton Harbour". Other people expressed frustration with the perceived lack of action by larger industries in cleaning up the harbour.

A problem which exists is that some of the business people, especially those with smaller quantities of waste, do not relate their business operations directly or indirectly to the state of the environment, because they are "so small" (although the majority of those surveyed have come to the realization that there is a cumulative effect from smaller quantities being disposed).

This was often apparent with one of the typical responses to Question 18, *greatest problems associated with hazardous waste management* being: "there is no problem".

4.4 SURVEY EFFECTIVENESS AS AN EDUCATIONAL TOOL

The first step in using anything as an educational tool is to have it accepted and used by those whom you wish to inform. Since only a very small minority have used the toll-free telephone line in order to obtain information, it appears that this is not a very effective educational tool.

On the other hand, going to businesses and performing the survey appears to be an extremely effective method of informing and increasing the awareness of environmental problems, and to some degree educating business persons. In cases where the surveyor was relatively unfamiliar with the nature of the business, the business people usually provided a tour of their operation. This allowed the surveyors an opportunity to expand their knowledge of the possible types of wastes which are generated by that particular industry sector. The content of the survey also provided an opportunity to allow the business to think of their waste in a different manner, instead of regarding waste as something to be rid of as cheaply and as conveniently as possible. The business people were forced to think more carefully about each hazardous waste material in terms of how it could be reduced, reused, recycled or substituted. In essence, the survey forced business people to conduct the first steps of "hazardous waste audits" (i.e., identifying, quantifying and analyzing management methods of their hazardous wastes). Conducting a waste audit is the initial phase in educating businesses about the waste they generate and how to manage it.

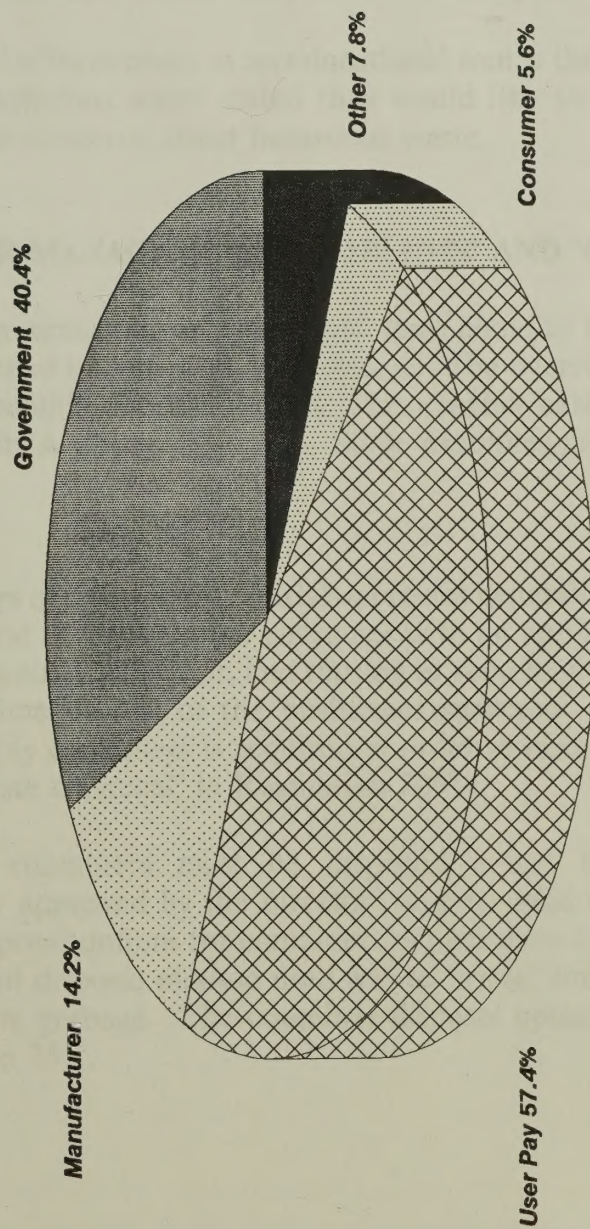
Another benefit of the "interview" type survey is that the surveyor "guides" the business people through the survey, in order to ensure that as many hazardous materials as possible are identified. This has the effect of making the business people aware of genuinely hazardous materials which they did not previously consider to be hazardous (and thus not a problem) or were completely unaware of.

An example of this was one person who, not being directly responsible for cleaning, had ordered chemicals every other month on the assumption that they were being used. When the cleaning material storage cabinet was opened during the survey, the shelves were found to be full of unused cleaning and polishing solutions.

FIGURE 4.2

QUESTION 35

How do you think hazardous waste management should be funded?



Note: Total greater than 100% due to combined answers

Surveyors were able to inform business people about a number of items, such as: WHMIS legislation, other provincial waste management legislation, higher priority hazardous waste management options, the 3Rs, substitute materials, and alternative processes. Some of the businesses were not aware of, nor concerned about, the final destination of their wastes. The surveyors informed businesses that all they need to do is to ask the company which is managing their hazardous waste about the final destination/use of the material.

Proof of the survey's potential effectiveness as an educational tool is that over 46.8% of surveyed businesses that generated hazardous waste stated they would like to be contacted again with regard to further questions or concerns about hazardous waste.

4.5 HAZARDOUS WASTE MANAGEMENT "PROBLEMS" AND "CONCERNS"

A number of hazardous waste management "problems" have come to light, which either can be addressed at present or will need to be solved in the future. The overriding "problems" are costs and lack of information on available disposal options. The presence of these "problems" is evident in the survey data in **Appendix A - Survey Results**. Some examples are given below.

4.5.1 CONTAINERS

Disposal options for containers of hazardous materials were not generally known by the businesses surveyed. A suggested method of cleaning the container with an applicable solvent, storing the solvent residues, washing with soap and water, and reusing or recycling the clean container, is not being used at the present time by any of the businesses surveyed. Triple rinsing of empty containers or liners from empty containers is required in order to exempt containers from being defined as a "commercial waste chemical" in Regulation 309⁴.

In the pesticide industry, containers must be disposed unless the container has been decontaminated in a manner approved by the director⁵, due to valid concerns about improper mixing of chemicals. The disposal options for containers of pesticides are generally stated on the actual container. The standard disposal method used was to "triple" rinse, use the rinse solution, and place the container in the garbage. The container disposal options for pesticide users are stated explicitly in Regulation 751⁶.

⁴Regulation 309, Revised Regulations of Ontario, 1980 as amended to O.Reg 750/88 under the *Environmental Protection Act* (General - Waste Management), February 1990.

⁵Regulation 751, Revised Regulation of Ontario, 1980 as amended to O.Reg. 119/91 under the *Pesticides Act*, s. 25.

⁶Ibid.

Some businesses stated that they used to be able to receive materials in 45 Gallon (205 Litre) drums, which were returned to the manufacturer and reused. Over time, manufacturers changed to smaller plastic containers, which may be able to be recycled, but are predominately disposed in the garbage. Other businesses reuse containers for an alternative purpose because they are a convenient size or shape. This management method has typically been used with 20L and larger pails, by such business sectors as the construction trades.

4.5.2 PHOTOCHEMICALS

Alternatives to sewer discharge were not readily known by many of the surveyed photochemical users. Users of photochemical solutions include: photoprocessing facilities, X-ray processing facilities (dental offices and hospitals), and printing/plate development processes. The businesses surveyed in the printing industries were, for the most part, having their wastes picked-up and disposed by a registered hauler. Some of the mini-labs used a closed-loop photochemical program which, with the purchase of chemicals, includes waste haulage and treatment and results in no discharge to sewer either on or off-site. The chemistry for this system is approximately the same cost to the photo processor, and is also applicable to x-ray development processing. A similar closed-loop program is employed by the photoprocessing company **Black's**, which has *System Crystal*TM.

Closed-loop re-processors of photochemical waste utilize the *Calfran*TM vacuum distillation system, which was developed by **Eastman Kodak Company**, in order to comply with certain instances where by-laws prohibit waste water discharge from photoprocessing facilities.

The closed-loop system, with no discharge to sewer, employed by some mini-lab photoprocessing facilities is called *NatureCare*TM, and was developed by **Champion Photochemistry**. Premixed chemicals are delivered to the mini-lab in reusable containers. Used chemicals are put into the old containers and picked up by the chemical manufacturer. The used chemistry is taken to the central photochemical (re-)processing plant, treated in order to recover the silver, and fractionated with a vacuum distillation column, with the remaining material distilled to water. The distilled water is passed through a carbon absorber, de-ionized and treated with ultra-violet radiation. Approximately 40% of the active chemicals are recovered for reuse. The vacuum distillation still "bottoms" comprise of a sludge which is hazardous due to the concentration of various chemicals; however, it may, in future, be able to be used as a soil amendment due to its nutrient value. (This is not possible at the present time as it contravenes part of Regulation 309)

The use of the newly available *NatureCare*TM program is an ongoing issue in the photoprocessing industry. The recycling of photochemical solutions requires good quality control. It is stated in Photo Marketing Association (PMA) literature that the discharges from photoprocessing pose no problems, either to the environment or the sewage treatment plants which service these wastes. One business surveyed specifically referenced the PMA literature as justification for the discharging to sewer of waste water which had first been processed through an on-site silver recovery unit.

A recent field study of 18 photo-processors⁷ (15 colour mini-labs and 3 wholesale labs) indicates that waste water effluent levels from photo processing "mini-labs" greatly exceed sewer use by-laws for silver, BOD, TKN, sulphate, total phosphorus, and iron.

Large photo-processing plants met sewer use by-laws for silver with an average discharge of 2 mg/L. "Mini-labs" averaged silver discharges of 625 mg/L. Processors with silver recovery averaged silver discharges of 163 mg/L, while processors without silver recovery averaged 1160 mg/L. The sewer use by-law for silver discharges is 5 mg/L.

The study also observed that many of the surveyed "mini-labs" did not properly operate, service or maintain the on-site silver recovery equipment in order to ensure optimal performance.

4.5.3 WASTE OILS

Substitute materials for oils were not known by some of the businesses interviewed, or were considered to be too expensive. An example of an alternative material is synthetic oil, which is available, but expensive. However, from a waste management stand-point synthetic oil is a favourable alternative to petroleum based oil. Synthetic oils appear to have the advantages of superior low and high temperature performance, a higher combustion temperature than petroleum based oil, being more readily suited to additive packages, and (depending on driving and maintenance habits) a longer usable life.

Synthetic motor oil typically can be used for three or more times longer than the life of regular motor oil. One surveyed business, which uses synthetic motor oil, changes oil filters regularly, but only changes the motor oil every 160,000 km. The "problem" with synthetic motor oil is that it costs up to five times as much as regular motor oil. The effectiveness of any motor oil can be undermined through negligent care of an automobile. In general, many people cannot readily see an immediate advantage by using synthetic motor oil.

The impact of longer drain intervals in conjunction with the use of synthetic motor oils on motor vehicle warranties is at this point an untested issue. A vehicle warranty is generally defined in the owner's manual, which usually does not expressly state that the warranty is void if the oil drain interval is lengthened; however, if a lubrication related problem is encountered, and the owner cannot prove proper maintenance procedures were followed, the onus will fall on the owner of the vehicle (see **Appendix B - Related Correspondence**). Some manufacturers of synthetic oil warrant against lubrication related problems with proper use of their product, but this has never been legally challenged.

⁷Ontario Ministry of the Environment (Water Resources Branch) and Regional Municipality of Peel, "DRAFT" *An Investigation of Photo-Processing Effluent Discharges to Sewers within the Regional Municipality of Peel*, (July 1992), unpublished.

The Ontario Ministry of the Environment has introduced a new permit-by-rule regulation⁸ which will allow point-of purchase-locations to accept used oil from both residents and small quantity generators (less than 25 Litres per month of used oil), as well as used oil filters (less than 5/month for small quantity generators).

Quantities of discarded used oil filters were not quantified on all applicable surveys, however; the majority of filters which were quantified were put in the garbage. Some of the filters were drained first. The actual quantity of oil filters can be approximated to be 20%-25% of number of Litres of used oil, assuming the filter was changed when the oil was changed.

4.5.4 MEDICAL WASTES

Some of the businesses which generate bio-medical waste ("pathological" waste by definition), such as doctors and dentists, stated that a "Bio-Box" takes many months to fill, and begins to produce an odour within this time. Low cost alternatives to long-term, on-site storage need to be addressed. One expedient solution, which is employed at the present time, is to place the "Bio-Box" in an isolated, locked storage area.

The present definition of what is and what is not a "pathological" waste requires clarification. To this end, proposed changes to the definition of biomedical waste have been suggested by the Ontario Ministry of Environment, in cooperation with the Ministry of Health and the Ontario Hospital Association (see **Appendix C - Forthcoming Changes to Government Waste Management Strategies**). At present, final amendments are being made to the strategy. Following these, regional planning committees will be created in order to determine methods and requirements for proper treatment.

A new definition of being "capable of causing punctures or cuts" will be used in order to define blades and needles. One question which arose was: are allergy needles, which have been used to scratch only the first layer of skin, considered needles? Following consultation with the Ministry of Environment, such instruments were defined as needles, and as they are coming from clinical testing laboratories, these needles are defined as biomedical waste.

Similarly, electrolysis needles, which are placed in pores in the skin, would not be considered biomedical waste unless used at "medical institutions" (as defined in the proposed biomedical waste strategy).

The present medical solution to possible contamination of practitioners and/or patients is the increasing use of disposable masks and gloves, which are not considered bio-medical waste. Items such as disposable, single-use "blow tubes" for tuberculosis tests, are also defined as a non-biomedical waste.

⁸Regulation 501 / 92, to amend Regulation 309 of Revised Regulations of Ontario, 1980 made under the *Environmental Protection Act* (General - Waste Management), 1992.

4.5.5 WASH-DOWN WATER

Most of the automobile servicing businesses surveyed have installed Oil/Water separators in order to separate oil out of floor wash-down water. The typical floor washing procedure is to sprinkle the floor with a small amount of soap powder and spray with water. The effectiveness of Oil/Water separators on soapy water carrying waste oil needs to be determined. Proper maintenance of separators was not generally known by businesses. Within the Regional Municipality of Hamilton-Wentworth, Oil/Water separators are required by certain types of businesses as outlined in the Sewer Use By-law⁹ and quoted below.

"Every person operating a restaurant business, public garage, metals plant or other establishment of any kind from which there is or is likely to be discharged into any sewer, any oil or grease contrary to this By-Law is to install a suitable grease and oil trap but the provisions of this sub-section do not apply to private living quarters."

Two automotive service type businesses that were surveyed did not have drain connections. Both businesses were very careful to keep spills to an absolute minimum, using absorbent material when absolutely necessary. One of the businesses bagged and self-hauled the used absorbent material to a licensed facility, while the other business swept up the absorbent and put it in the garbage. It was observed that with these businesses, accidental spills were the only source of hazardous waste which could not be recycled off-site.

4.5.6 GASOLINE SPILLS

It is stated explicitly in an operating manual of an oil/gasoline company that any used (gasoline) absorbent of less than 5 kg is not a hazardous waste, and may be put in with the regular garbage. This statement is erroneous in that although spills of less than 5 kg are not regulated by the provincial government as a hazardous waste under Regulation 309; however, all hazardous waste must be treated in an acceptable manner in order to meet other applicable regulations including Municipal by-laws, regardless of quantity.

4.5.7 SMALL SCALE X-RAY PROCESSING

Many small scale x-ray processing facilities, such as dentists and veterinarians, do not treat their photoprocessing discharges with a silver recovery unit. The majority of such users are either uneasy about discharging this material to sewer, but are not aware of alternatives, or have enlisted the services of registered haulers and found the quantity of waste generated to be too small, and hence had the service discontinued.

⁹The Regional Municipality of Hamilton-Wentworth By-Law No. R89-049 and By-Law No. R79-172

4.5.8 TIRES

Used tires are not defined for the purposes of this project as a hazardous waste; however, due to the number of concerns expressed regarding tire disposal, this problem waste needs to be addressed. The disposal options for tires are extremely limited at the present time. Many automobile service stations have tires dumped on their property by unknown parties.

One vehicle rental business has had trucks returned, loaded with old tires. The person(s) who dumped these tires took care to use false identification in order to rent the vehicle in the first place.

A large majority of the applicable businesses surveyed, who are required to charge tire tax, wanted to know where the money that has been collected has gone. These businesses are extremely disturbed that this money has gone into general revenues (see **Appendix B - Related Correspondence** for examples). Some of the businesses who have potential waste management ideas for tires, perceive to have drawn little response from regulatory officials.

4.5.9 BUSINESSES LOCATED IN MALLS

Businesses located in malls and shopping centres typically had their waste management options dictated by building management. Many malls have taken steps to address such issues as recycling of "blue box" materials with mandatory waste separation; however, management of hazardous wastes has generally not been addressed yet.

4.5.10 UNUSED CHEMICALS

Many laboratories and other businesses which use unique chemicals as part of their business operations expressed frustration at manufacturers, with regard to restrictions on returning unused chemicals, or chemicals that have exceeded their shelf life. In many cases, manufacturers of these materials had previously accepted returned chemicals; however, over time these manufacturers have changed their policies and, as a result, the user is now forced to dispose of chemicals directly which have not been used or have exceeded their shelf life.

4.5.11 OTHER ISSUES

The only other significant "concern" which has been identified through the surveying process is businesses' desire generally to have a "third sector" (ICI) "Blue Box" type program for recyclable materials generated by business.

4.6 CHANGES TO WASTE GROUP DESIGNATIONS

The computer program being used for analyzing the survey data was specifically designed in order to allow the waste group designations of different materials, and the waste group definitions themselves, to be changed as necessary. It is apparent at this time that certain waste groups are not required, while other waste groups should be included. The following is the list of deleted and inserted waste groups.

Deleted Waste Groups

F - Cleaning Agents

Inserted Waste Groups

F - Freon

X - PCB Contaminated Wastes

Y - Oily Wash-down Water

Z - Containers of Hazardous Materials

Deleted Waste Group F - Cleaning Agents was defined, in part, by the Ontario Ministry of the Environment (MOE) Waste Classes 211 and 241. MOE Waste Class 211 will be included in Waste Group O - Non-Halogenated Spent Solvents, and Waste Class 241 will be included in Waste Group K - Halogenated Spent Solvents.

5.0 SUMMARY AND STAGE 3 FIRST PHASE

5.1 SUMMARY

This report outlined the tasks undertaken to complete Stage 2b of the project. The following have been completed in order to proceed with Stage 3:

- Operation of the Pollution Prevention Information Line;
- Distribution of Information Bulletin through the Hamilton Chamber of Commerce and to business associations;
- Mailing of the Letter of Introduction and Information Bulletin to 456 randomly selected potential Small Quantity Hazardous Waste Generators;
- Surveying of randomly selected businesses; and
- Summary analysis of survey data.

5.2 STAGE 3 FIRST PHASE

The phases which will be undertaken for the completion of the first of three milestones in Stage 3 include:

1. Research for Management Plan for targeted industrial sectors.
2. Determination of the success of education and information programs.
3. Development of methods for safe and economic collection and handling of Small Quantity Generated Hazardous Waste.

It is anticipated that the first phase of Stage 3 will take five months to complete. A summary report will be issued at the end of the phase.

Appendix A - Survey Results

**Appendix A - 1 - Waste Quantities by SIC Code
- Total Waste per year from surveyed businesses**

Appendix A – 1 Waste Quantities by SIC Code – Total Waste per year from surveyed businesses

Legend

Quantities are all TOTAL Litres per year found during survey, except Waste Group L and Z
Quantities for Waste Groups L (Lead Acid Batteries) and Z (Containers of Hazardous Materials) are TOTAL per year found during survey
PERCENTAGE – Per cent of total waste in given waste management technique
Percentage (%) – Per cent composition in waste stream of given waste management technique

SIC CODE : 0742

Veterinary services, specialties

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
N – Miscellaneous Organic Waste Percentage (%)	0	14	0	0	0	0	0	0	0	0	0
S – Photoprocessing Wastes Percentage (%)	0	334	0	0	0	0	0	0	0	0	80
T – Pharmaceuticals & Medical Wastes Percentage (%)	24	44.2	0	0	0	0	0	0	0	0	100
U – Printing Solutions Percentage (%)	100	0	0	0	0	14000	144	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	0	408	0	0	0	100	100	0	0	0	0
PERCENTAGE	0.2	5	0	0	0	93.3	1	0	0	0	0.5

SIC CODE : 0782

Lawn and garden services

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	0	0	40	0	0	0	0	0
P – Oil Wastes Percentage (%)	0	0	0	0	0	1.3	0	0	0	0	0
R – Pesticide Solutions Percentage (%)	0	0	0	0	0	0	0	2	24	0	0
Z – Containers of Hazardous Materials Percentage (%)	56	0	0	0	0	0	0	100	100	0	0
PERCENTAGE	1.2	0	0	0	0.6	68	6.1	0	0.5	0	23.5

SIC CODE : 1611

Highway and street construction

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L – Lead-Acid Batteries Percentage (%)	0	0	0	0	0	0	0	5	0	0	0
P – Oil Wastes Percentage (%)	0	0	0	0	0	0	0	100	0	0	0
PERCENTAGE	0	0	0	0	0	99.7	0	0.3	0	0	0

SIC CODE : 1623

Water, sewer, and utility lines

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L – Lead-Acid Batteries	0	0	0	0	0	2	0	0	0	0	0
Percentage (%)	0	0	0	0	0	0.5	0	0	0	0	0
P – Oil Wastes	0	0	0	0	0	400	0	0	0	0	0
Percentage (%)	0	0	0	0	0	99.5	0	0	0	0	0
Z – Containers of Hazardous Materials	1	0	0	0	0	0	0	0	0	0	0
Percentage (%)	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	0.2	0	0	0	0	99.8	0	0	0	0	0

SIC CODE : 1711

Plumbing, heating, air – conditioning

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
D – Alkaline Solutions	0	16	0	0	0	0	0	0	0	0	0
Percentage (%)	0	100	0	0	0	0	0	0	0	0	0
F – Freon	0	0	0	1	0	0	1	0	0	0	0
Percentage (%)	0	0	0	50	0	0	0.3	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol	0	0	0	1	0	0	0	0	0	0	0
Percentage (%)	0	0	0	50	0	0	0	0	0	0	0
P – Oil Wastes	0	0	0	0	0	0	290	0	0	0	0
Percentage (%)	0	0	0	0	0	0	99.7	0	0	0	0
Z – Containers of Hazardous Materials	1	0	0	0	0	0	0	16	0	0	0
Percentage (%)	100	0	0	0	0	0	0	100	0	0	0
PERCENTAGE	0.3	4.9	0	0.6	0	0	89.3	4.9	0	0	0

SIC CODE : 1721

Painting and paper hanging

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
O – Non-Halogenated Spent Solvents, Varsol	0	0	0	0	0	0	84	0	0	0	0
Percentage (%)	0	0	0	0	0	0	28.8	0	0	0	0
Q – Paints, Coatings & Wood Preservatives	10	0	0	0	0	0	208	0	0	0	0
Percentage (%)	8.8	0	0	0	0	0	71.2	0	0	0	0
Z – Containers of Hazardous Materials	104	0	0	0	0	0	0	0	24	0	0
Percentage (%)	91.2	0	0	0	0	0	0	0	100	0	0
PERCENTAGE	26.5	0	0	0	0	0	67.9	0	5.6	0	0

SIC CODE : 1743

Terrazzo, tile, marble, mosaic work

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
O - Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	60	0	0	0	0	0	0	0	0	0
Z - Containers of Hazardous Materials Percentage (%)	264	0	0	0	10	0	44	0	0	0	52
	100	0	0	0	100	0	100	0	0	0	100
PERCENTAGE	61.4	14	0	0	2.3	0	10.2	0	0	0	12.1

SIC CODE : 1794

Excavation work

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L - Lead-Acid Batteries Percentage (%)	0	0	0	0	0	0	0	5	0	0	0
P - Oil Wastes Percentage (%)	0	0	0	20	0	400	0	100	0	0	0
Z - Containers of Hazardous Materials Percentage (%)	0	0	0	100	0	100	0	0	0	0	0
	0	0	0	0	0	0	1	0	0	0	0
PERCENTAGE	0	0	0	0	0	93.9	100	0	0	0	0

SIC CODE : 2434

Wood kitchen cabinets

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
B - Adhesives, Resins & Plastics Percentage (%)	72	0	0	0	0	0	0	0	0	0	0
	55.4	0	0	0	0	0	0	0	0	0	0
O - Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	15	0	60	0	0	0	0	0	0	0
	0	100	0	100	0	0	0	0	0	0	0
Q - Paints, Coatings & Wood Preservatives Percentage (%)	3	0	0	0	0	0	0	0	24	0	0
	2.3	0	0	0	0	0	0	0	100	0	0
Z - Containers of Hazardous Materials Percentage (%)	55	0	0	0	0	0	0	0	0	0	0
	42.3	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	56.8	6.6	0	26.2	0	0	0	0	10.5	0	0

SIC CODE : 2542

Partitions and fixtures, except wood

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z - Containers of Hazardous Materials Percentage (%)	480	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 2752

Commercial printing, lithographic

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
O -- Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	0	0	240 44.7	0	0	0	0	0
S -- Photoprocessing Wastes Percentage (%)	0	0	0	0	0	0	0	0	0	0	10
U -- Printing Solutions Percentage (%)	52	24	0	0	0	297	0	104	0	0	0
	100	100	0	0	0	55.3	0	100	0	0	0
PERCENTAGE	7.2	3.3	0	0	0	73.9	0	14.3	0	0	1.4

SIC CODE : 2759

Commercial printing, nec

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
D -- Alkaline Solutions Percentage (%)	0	212 53	0	0	0	0	0	0	0	0	0
H -- Dry Cleaning Solutions Percentage (%)	0	0	0	0	0	0	0	0	0	0	12
O -- Non-Halogenated Spent Solvents, Varsol Percentage (%)	48	2	0	828	0	0	0	0	0	0	16.7
	13.5	0.5	0	70.5	0	0	0	0	0	0	48
U -- Printing Solutions Percentage (%)	280	186	0	336	0	0	468	0	0	0	66.7
	78.7	46.5	0	28.6	0	0	97.5	0	0	0	16.7
Z -- Containers of Hazardous Materials Percentage (%)	28	0	0	10	0	84	12	0	0	0	0
	7.9	0	0	0.9	0	100	2.5	0	0	0	0
PERCENTAGE	13.9	15.6	0	45.8	0	3.3	18.7	0	0	0	2.8

SIC CODE : 3253

Ceramic wall and floor tile

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z -- Containers of Hazardous Materials Percentage (%)	0	0	0	0	0	0	0	1	0	0	0
	0	0	0	0	0	0	0	100	0	0	0
PERCENTAGE	0	0	0	0	0	0	0	100	0	0	0

SIC CODE : 3443

Fabricated plate work (boiler shops)

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
J -- Fuels Percentage (%)	0	0	0	0	0	0	0	0	0	0	520
P -- Oil Wastes Percentage (%)	0	0	0	0	0	245	0	0	0	0	100
	0	0	0	0	0	32	0	0	0	0	0
Z -- Containers of Hazardous Materials Percentage (%)	0	0	0	0	0	520	0	0	0	0	0
	0	0	0	0	0	68	0	0	0	0	0
PERCENTAGE	0	0	0	0	0	59.5	0	0	0	0	40.5

SIC CODE : 3541

Machine tools, metal cutting types

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
P – Oil Wastes	0	0	0	0	48	0	0	0	0	0	0
Percentage (%)	0	0	0	100	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials	0	0	0	0	0	0	1	0	0	0	0
Percentage (%)	0	0	0	0	0	0	100	0	0	0	0
PERCENTAGE	0	0	0	98	0	0	2	0	0	0	0

SIC CODE : 3843

Dental equipment and supplies

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
A – Acids	0	4	0	0	0	0	0	0	0	0	0
Percentage (%)	0	40	0	0	0	0	0	0	0	0	0
B – Adhesives, Resins & Plastics	7	0	0	0	0	0	0	0	0	0	0
Percentage (%)	100	0	0	0	0	0	0	0	0	0	0
K – Halogenated Spent Solvents	0	5	0	0	0	0	0	0	0	0	0
Percentage (%)	0	50	0	0	0	0	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol	0	1	0	2	0	0	0	0	0	0	0
Percentage (%)	0	10	0	100	0	0	0	0	0	0	0
PERCENTAGE	36.8	52.6	0	10.5	0	0	0	0	0	0	0

SIC CODE : 3911

Jewelry, precious metal

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
A – Acids	0	1	0	0	0	0	0	0	0	0	0
Percentage (%)	0	1.9	0	0	0	0	0	0	0	0	0
M – Miscellaneous Inorganic Waste	0	52	0	0	0	0	0	0	0	0	0
Percentage (%)	0	96.3	0	0	0	0	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol	0	1	0	0	0	0	0	0	0	0	8
Percentage (%)	0	1.9	0	0	0	0	0	0	0	0	100
PERCENTAGE	0	87.1	0	0	0	0	0	0	0	0	12.9

SIC CODE : 4212

Local trucking, without storage

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
J – Fuels	0	0	0	0	0	0	0	0	0	0	1
Percentage (%)	0	0	0	0	0	0	0	0	0	0	1
L – Lead – Acid Batteries	0	0	0	0	0	0	0	2	0	0	0
Percentage (%)	0	0	0	0	0	0	0	100	0	0	0
P – Oil Wastes	0	0	0	0	0	0	0	0	0	0	96
Percentage (%)	0	0	0	0	0	0	0	0	0	0	99
Z – Containers of Hazardous Materials	2	0	0	0	0	0	0	0	0	0	0
Percentage (%)	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	2	0	0	0	0	0	0	2	0	0	96

SIC CODE : 4215

Courier services, except by air

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z – Containers of Hazardous Materials	103	0	0	0	0	0	0	0	0	0	0
Percentage (%)	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 4231

Trucking terminal facilities

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L – Lead – Acid Batteries	0	0	0	0	0	0	0	100	0	0	0
Percentage (%)	0	0	0	0	0	0	0	100	0	0	0
O – Non – Halogenated Spent Solvents, Varsol	0	0	0	0	0	300	0	0	0	0	0
Percentage (%)	0	0	0	0	0	1.2	0	0	0	0	0
P – Oil Wastes	3600	0	0	0	0	24000	0	0	0	0	0
Percentage (%)	100	0	0	0	0	98.8	0	0	0	0	0
PERCENTAGE	12.9	0	0	0	0	86.8	0	0.4	0	0	0

SIC CODE : 4432

Freight trans. on the Great Lakes

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
E - Anti-Freeze	0	0	0	0	0	800	0	0	0	0	0
Percentage (%)	0	0	0	0	0	8.6	0	0	0	0	0
L - Lead-Acid Batteries	0	0	0	0	0	75	0	0	0	0	0
Percentage (%)	0	0	0	0	0	0.8	0	0	0	0	0
O - Non-Halogenated Spent Solvents, Varsol	0	0	0	0	0	360	0	0	0	0	0
Percentage (%)	0	0	0	0	0	3.9	0	0	0	0	0
P - Oil Wastes	0	0	0	0	0	7992	0	0	0	0	0
Percentage (%)	0	0	0	0	0	85.7	0	0	0	0	0
Z - Containers of Hazardous Materials	0	0	0	0	0	100	0	0	0	0	0
Percentage (%)	0	0	0	0	0	1.1	0	0	0	0	0
PERCENTAGE	0	0	0	0	0	100	0	0	0	0	0

SIC CODE : 5032

Brick, stone, & related materials

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
A - Acids	0	240	0	0	0	0	0	0	0	0	0
Percentage (%)	0	100	0	0	0	0	0	0	0	0	0
E - Anti-Freeze	0	0	0	0	0	700	0	0	0	0	0
Percentage (%)	0	0	0	0	0	23.2	0	0	0	0	0
L - Lead-Acid Batteries	0	0	0	0	0	0	0	40	0	0	0
Percentage (%)	0	0	0	0	0	0	0	100	0	0	0
O - Non-Halogenated Spent Solvents, Varsol	0	0	0	0	0	1280	0	0	0	0	0
Percentage (%)	0	0	0	0	0	42.4	0	0	0	0	0
P - Oil Wastes	0	0	0	0	0	1040	0	0	0	0	0
Percentage (%)	0	0	0	0	0	34.4	0	0	0	0	0
PERCENTAGE	0	7.3	0	0	0	91.5	0	1.2	0	0	0

SIC CODE : 5093

Scrap and waste materials

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L - Lead-Acid Batteries	0	0	0	0	0	0	0	30	0	0	0
Percentage (%)	0	0	0	0	0	0	0	100	0	0	0
P - Oil Wastes	3	0	0	0	0	0	0	0	0	0	0
Percentage (%)	20	0	0	0	0	0	0	0	0	0	0
Z - Containers of Hazardous Materials	12	0	0	0	0	0	0	0	0	0	0
Percentage (%)	80	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	33.3	0	0	0	0	0	0	66.7	0	0	0

SIC CODE : 5211

Lumber and other building materials

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z – Containers of Hazardous Materials Percentage (%)	0	0	0	5	0	0	0	0	0	0	0
PERCENTAGE	0	0	0	100	0	0	0	0	0	0	0

SIC CODE : 5231

Paint, glass, and wallpaper stores

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Q – Paints, Coatings & Wood Preservatives Percentage (%)	288	0	0	0	0	0	0	0	0	0	0
	66.1	0	0	0	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	148	0	0	0	0	0	0	0	0	0	0
	33.9	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 5251

Hardware stores

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
I – Dry Cell Batteries	104	0	0	0	0	0	0	0	0	0	0
Percentage (%)	94.5	0	0	0	0	0	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	10	0	0	0	0	0	0	0	0	0
	0	100	0	0	0	0	0	0	0	0	0
Q – Paints, Coatings & Wood Preservatives Percentage (%)	0	0	0	0	0	0	0	0	0	0	20
	0	0	0	0	0	0	0	0	0	0	100
X – PCB Contaminated Wastes Percentage (%)	6	0	0	0	0	0	0	0	0	0	0
	5.5	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	78.6	7.1	0	0	0	0	0	0	0	0	14.3

SIC CODE : 5261

Retail nurseries and garden stores

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z – Containers of Hazardous Materials Percentage (%)	17	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 5311

Department stores

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
M – Miscellaneous Inorganic Waste Percentage (%)	0	200	0	0	0	0	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	8 28.6	200 50	0	0	0	0	0	0	0	0	0
P – Oil Wastes Percentage (%)	0	0	0	0	0	0	0	0	0	0	40
Z – Containers of Hazardous Materials Percentage (%)	20 71.4	0	0	0	0	6 100	0	0	0	0	100
PERCENTAGE	5.9	84.4	0	0	0	1.3	0	0	0	0	8.4

SIC CODE : 5511

New and used car dealers

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
E – Anti-Freeze Percentage (%)	0	0	0	0	0	114 9.1	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	0	0	1 0.1	0	0	0	0	0
P – Oil Wastes Percentage (%)	0	0	0	0	0	1140 90.8	52 100	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	36 100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	2.7	0	0	0	0	93.4	3.9	0	0	0	0

SIC CODE : 5521

Used car dealers

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z – Containers of Hazardous Materials Percentage (%)	192 100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 5531

Auto and home supply stores

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L – Lead-Acid Batteries Percentage (%)	0	0	0	0	0	0	0	30 96.8	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	180 100	0	0	0	0	0	0	1 3.2	0	0	0
PERCENTAGE	85.3	0	0	0	0	0	0	14.7	0	0	0

SIC CODE : 5541

Gasoline service stations

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
J – Fuels	52	0	0	0	0	80	0	0	0	0	0
Percentage (%)	1.7	0	0	0	0	0.8	0	0	0	0	0
N – Miscellaneous Organic Waste	0	0	8	0	0	0	0	0	0	0	0
Percentage (%)	0	0	100	0	0	0	0	0	0	0	0
P – Oil Wastes	0	0	0	40	0	9990	0	0	0	0	0
Percentage (%)	0	0	0	100	0	99.2	0	0	0	0	0
Z – Containers of Hazardous Materials	3003	0	0	0	0	0	0	0	0	0	0
Percentage (%)	98.3	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	23.2	0	0.1	0.3	0	76.4	0	0	0	0	0

SIC CODE : 5551

Boat dealers

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
P – Oil Wastes	0	0	0	0	0	0	0	0	0	0	400
Percentage (%)	0	0	0	0	0	0	0	0	0	0	100
PERCENTAGE	0	0	0	0	0	0	0	0	0	0	100

SIC CODE : 5561

Recreational vehicle dealers

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L – Lead – Acid Batteries	0	0	0	0	0	7	0	0	0	0	0
Percentage (%)	0	0	0	0	0	100	0	0	0	0	0
O – Non – Halogenated Spent Solvents, Varsol	0	0	0	12	0	0	0	0	0	0	0
Percentage (%)	0	0	0	100	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials	39	0	0	0	0	0	0	0	0	0	0
Percentage (%)	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	67.2	0	0	20.7	0	12.1	0	0	0	0	0

SIC CODE : 5571

Motorcycle dealers

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
E – Anti – Freeze	0	0	0	8	0	1	0	0	0	0	0
Percentage (%)	0	0	0	100	0	0	0	0	0	0	0
L – Lead – Acid Batteries	0	0	0	0	0	0	0	235	0	0	0
Percentage (%)	0	0	0	0	0	0	0	100	0	0	0
O – Non – Halogenated Spent Solvents, Varsol	0	0	0	0	0	900	0	0	0	0	0
Percentage (%)	0	0	0	0	0	26	0	0	0	0	0
P – Oil Wastes	0	0	0	0	0	2560	0	0	0	0	0
Percentage (%)	0	0	0	0	0	74	0	0	0	0	0
PERCENTAGE	0	0	0	0.2	0	93.4	0	6.3	0	0	0

SIC CODE : 5599

Automotive dealers, nec

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	0	0	100	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	24	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0
	19.4	0	0	0	0	80.6	0	0	0	0	0

SIC CODE : 5941

Sporting goods and bicycle shops

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
P – Oil Wastes Percentage (%)	1	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 5945

Hobby, toy, and game shops

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z – Containers of Hazardous Materials Percentage (%)	28	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 5946

Camera & photographic supply stores

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
I – Dry Cell Batteries Percentage (%)	0	0	0	0	0	12	0	0	0	0	0
S – Photoprocessing Wastes Percentage (%)	0	29120	0	0	0	0.2	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	1561	0	0	0	0	6512	0	13000	0	0	1
PERCENTAGE	100	0	0	0	0	99.8	0	100	0	0	100
	3.1	58	0	0	0	13	0	25.9	0	0	0

SIC CODE : 5949

Sewing, needlework, and piece goods

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
N – Miscellaneous Organic Waste Percentage (%)	0	0	0	5	0	0	0	0	0	0	0
PERCENTAGE	0	0	0	100	0	0	0	0	0	0	0
	0	0	0	100	0	0	0	0	0	0	0

SIC CODE : 7216

Drycleaning plants, except rug

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
H – Dry Cleaning Solutions	750	0	0	1961	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	100	0	0	0	0	0	0	0
	27.7	0	0	72.3	0	0	0	0	0	0	0

SIC CODE : 7217

Carpet and upholstery cleaning

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
N – Miscellaneous Organic Waste	0	526	0	0	0	0	0	0	0	0	0
PERCENTAGE (%)	0	91.6	0	0	0	0	0	0	0	0	0
O – Non – Halogenated Spent Solvents, Varsol	0	48	0	0	0	0	0	0	0	0	0
PERCENTAGE (%)	0	8.4	0	0	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials	12	0	0	0	0	0	24	0	0	0	0
PERCENTAGE (%)	100	0	0	0	0	0	100	0	0	0	0
	2	94.1	0	0	0	0	3.9	0	0	0	0

SIC CODE : 7221

Photographic studios, portrait

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
S – Photoprocessing Wastes	0	54	0	0	0	0	0	0	0	0	4
PERCENTAGE (%)	0	100	0	0	0	0	0	0	0	0	100
Z – Containers of Hazardous Materials	12	0	0	0	0	0	0	0	0	0	0
PERCENTAGE (%)	100	0	0	0	0	0	0	0	0	0	0
	17.1	77.1	0	0	0	0	0	0	0	0	5.7

SIC CODE : 7231

Beauty shops

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
A – Acids	0	144	0	0	0	0	0	0	0	0	0
PERCENTAGE (%)	0	29.9	0	0	0	0	0	0	0	0	0
D – Alkaline Solutions	0	174	0	0	0	0	0	0	0	0	0
PERCENTAGE (%)	0	36.1	0	0	0	0	0	0	0	0	0
M – Miscellaneous Inorganic Waste	0	91	0	0	0	0	0	0	0	0	0
PERCENTAGE (%)	0	18.9	0	0	0	0	0	0	0	0	0
N – Miscellaneous Organic Waste	0	73	0	0	0	0	0	0	0	0	0
PERCENTAGE (%)	0	15.1	0	0	0	0	0	0	0	0	0
O – Non – Halogenated Spent Solvents, Varsol	0	0	0	12	0	0	0	0	0	0	0
PERCENTAGE (%)	0	0	0	100	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials	3954	0	0	0	0	0	0	0	0	0	0
PERCENTAGE (%)	100	0	0	0	0	0	0	0	0	0	0
	88.9	10.8	0	0.3	0	0	0	0	0	0	0

SIC CODE : 7251

Shoe repair and shoeshine parlors

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
O -- Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	1	0	0	0	0	0	0	0
Z -- Containers of Hazardous Materials Percentage (%)	156	0	0	100	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0
	99.4	0	0	0.6	0	0	0	0	0	0	0

SIC CODE : 7261

Funeral service and crematories

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
D -- Alkaline Solutions Percentage (%)	0	4	0	0	0	0	0	0	0	0	0
N -- Miscellaneous Organic Waste Percentage (%)	0	0.1	0	0	0	0	0	0	0	0	0
O -- Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	4	0	0	0	0	0	0	0	0	0
R -- Pesticide Solutions Percentage (%)	0	0.1	0	0	0	0	0	0	0	0	0
T -- Pharmaceuticals & Medical Wastes Percentage (%)	0	2997	0	0	0	0	0	0	0	0	0
Z -- Containers of Hazardous Materials Percentage (%)	0	72.4	0	0	0	0	0	0	0	0	0
PERCENTAGE	0	0	0	0	0	0	0	0	0	0	3
	0	0	0	0	0	0	0	0	0	0	100
	0	1134	0	0	0	327	0	0	0	0	0
	0	27.4	0	0	0	100	0	0	0	0	0
	8	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	0.2	92.5	0	0	0	7.3	0	0	0	0	0.1

SIC CODE : 7291

Tax return preparation services

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
T -- Pharmaceuticals & Medical Wastes Percentage (%)	25	0	0	0	0	0	0	0	0	0	0
Z -- Containers of Hazardous Materials Percentage (%)	75.8	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	8	0	0	0	0	0	0	0	0	0	0
	24.2	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 7311

Advertising agencies

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	0	0	0	0	0	0	0	1
Q – Paints, Coatings & Wood Preservatives Percentage (%)	0	1	0	0	0	0	0	0	0	0	100
S – Photoprocessing Wastes Percentage (%)	0	7.1	0	0	0	0	0	0	0	0	0
U – Printing Solutions Percentage (%)	0	12	0	0	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	0	85.7	0	0	0	0	0	0	0	0	0
PERCENTAGE	90.1	9.2	0	0	0	0	0	0	0	0	0.7

SIC CODE : 7334

Photocopying & duplicating services

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
U – Printing Solutions Percentage (%)	0	96	0	0	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	119	100	0	0	0	0	0	0	0	0	364
PERCENTAGE	20.6	16.6	0	0	0	0	0	0	0	0	62.9

SIC CODE : 7336

Commercial art & graphic design

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
S – Photoprocessing Wastes Percentage (%)	0	2904	0	0	0	3	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	88	0	0	0	0	100	0	0	0	0	0
PERCENTAGE	2.9	97	0	0	0	0.1	0	0	0	0	0

SIC CODE : 7342

Disinfecting & pest control

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z – Containers of Hazardous Materials Percentage (%)	1200	0	0	0	0	10	0	60	0	0	0
PERCENTAGE	94.5	0	0	0	0	0.8	0	4.7	0	0	0

SIC CODE : 7353

Heavy construction equipment rental

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L – Lead – Acid Batteries	0	0	0	0	0	0	0	12	0	0	0
Percentage (%)	0	0	0	0	0	0	0	4.2	0	0	0
P – Oil Wastes	22	60	0	0	0	307	0	276	0	0	0
Percentage (%)	55	100	0	0	0	100	0	95.8	0	0	0
Z – Containers of Hazardous Materials	18	0	0	0	0	0	0	0	0	0	0
Percentage (%)	45	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	5.8	8.6	0	0	0	44.2	0	41.4	0	0	0

SIC CODE : 7384

Photofinishing laboratories

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
S – Photoprocessing Wastes	520	3252	0	0	0	545	1300	1	0	0	0
Percentage (%)	70.9	100	0	0	0	100	100	100	0	0	0
Z – Containers of Hazardous Materials	213	0	0	0	0	0	0	0	0	0	6
Percentage (%)	29.1	0	0	0	0	0	0	0	0	0	100
PERCENTAGE	12.6	55.7	0	0	0	9.3	22.3	0	0	0	0.1

SIC CODE : 7514

Passenger car rental

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
P – Oil Wastes	1	0	0	0	0	0	0	0	0	0	0
Percentage (%)	0.3	0	0	0	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials	302	0	0	0	0	0	3	0	0	0	0
Percentage (%)	99.7	0	0	0	0	0	100	0	0	0	0
PERCENTAGE	99	0	0	0	0	0	1	0	0	0	0

SIC CODE : 7532

Top & body repair & paint shops

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
E - Anti-Freeze	0	0	0	0	0	51	0	0	0	0	0
Percentage (%)	0	0	0	0	0	1.1	0	0	0	0	0
F - Freon	0	0	0	0	0	0	0	1	0	0	0
Percentage (%)	0	0	0	0	0	0	0	0	0	0	0
L - Lead-Acid Batteries	0	0	0	0	0	4	0	0	0	0	0
Percentage (%)	0	0	0	0	0	0.1	0	0	0	0	0
O - Non-Halogenated Spent Solvents, Varsol	0	0	0	0	0	2460	0	1	0	0	0
Percentage (%)	0	0	0	0	0	53.4	0	0	0	0	0
P - Oil Wastes	0	0	0	0	0	1824	0	0	0	0	0
Percentage (%)	0	0	0	0	0	39.6	0	0	0	0	0
Q - Paints, Coatings & Wood Preservatives	3720	0	0	0	0	0	0	0	0	0	0
Percentage (%)	98.9	0	0	0	0	0	0	0	0	0	0
Y - Oily Wash Down Water	0	18	0	0	0	0	0	0	0	0	0
Percentage (%)	0	100	0	0	0	0	0	0	0	0	0
Z - Containers of Hazardous Materials	43	0	0	0	0	264	0	2676	0	0	0
Percentage (%)	1.1	0	0	0	0	5.7	0	99.9	0	0	0
PERCENTAGE	34	0.2	0	0	0	41.6	0	24.2	0	0	0

SIC CODE : 7534

Tire retreading and repair shops

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L - Lead-Acid Batteries	0	0	0	0	0	144	0	0	0	0	0
Percentage (%)	0	0	0	0	0	2.6	0	0	0	0	0
O - Non-Halogenated Spent Solvents, Varsol	0	0	0	0	0	160	0	0	0	0	0
Percentage (%)	0	0	0	0	0	2.9	0	0	0	0	0
P - Oil Wastes	0	0	0	1000	0	5200	0	0	0	0	0
Percentage (%)	0	0	0	100	0	94.5	0	0	0	0	0
PERCENTAGE	0	0	0	15.4	0	84.6	0	0	0	0	0

SIC CODE : 7537

Automotive transmission repair shops

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
E - Anti-Freeze	0	0	0	0	0	1200	0	0	0	0	0
Percentage (%)	0	0	0	0	0	3.5	0	0	0	0	0
G - Detergents & Soaps	0	1	0	0	0	0	0	0	0	0	0
Percentage (%)	0	0.1	0	0	0	0	0	0	0	0	0
L - Lead - Acid Batteries	0	0	0	0	0	0	0	0	0	0	0
Percentage (%)	0	0	0	0	0	0	0	0	0	0	0
O - Non-Halogenated Spent Solvents, Varsol	0	0	0	0	0	384	0	180	0	0	0
Percentage (%)	0	0	0	0	0	1.1	0	98.9	0	0	0
P - Oil Wastes	0	0	0	0	0	32758	1	0	0	0	42
Percentage (%)	0	0	0	0	0	95.4	100	0	0	0	100
Y - Oily Wash Down Water	0	1060	0	0	0	0	0	0	0	0	0
Percentage (%)	0	99.9	0	0	0	0	0	0	0	0	0
Z - Containers of Hazardous Materials	43	0	0	0	0	0	0	0	0	0	0
Percentage (%)	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	0.1	3	0	0	0	96.3	0	0.5	0	0	0.1

SIC CODE : 7538

General automotive repair shops

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
D - Alkaline Solutions	0	0	0	0	0	400	0	0	0	0	0
Percentage (%)	0	0	0	0	0	1	0	0	0	0	0
E - Anti-Freeze	0	0	0	0	0	3238	770	260	0	0	0
Percentage (%)	0	0	0	0	0	7.7	86.2	4.7	0	0	0
F - Freon	0	0	0	0	0	0	1	24	0	0	0
Percentage (%)	0	0	0	0	0	0	0.1	0.4	0	0	0
J - Fuels	0	0	0	0	0	0	0	0	0	0	125
Percentage (%)	0	0	0	0	0	0	0	0	0	0	100
K - Halogenated Spent Solvents	0	240	0	0	0	0	0	0	0	0	0
Percentage (%)	0	67.4	0	0	0	0	0	0	0	0	0
L - Lead - Acid Batteries	0	0	0	0	0	436	0	310	0	0	0
Percentage (%)	0	0	0	0	0	1	0	5.6	0	0	0
O - Non-Halogenated Spent Solvents, Varsol	0	0	0	0	0	1492	0	120	0	0	0
Percentage (%)	0	0	0	0	0	3.6	0	2.2	0	0	0
P - Oil Wastes	3692	22	0	0	0	36379	112	4800	0	0	0
Percentage (%)	84.3	6.2	0	0	0	86.6	12.5	87.1	0	0	0
Y - Oily Wash Down Water	0	94	0	1	0	0	0	0	0	0	0
Percentage (%)	0	26.4	0	100	0	0	0	0	0	0	0
Z - Containers of Hazardous Materials	690	0	0	0	0	58	10	0	0	0	0
Percentage (%)	15.7	0	0	0	0	0.1	1.1	0	0	0	0
PERCENTAGE	8.2	0.7	0	0	0	78.8	1.7	10.4	0	0	0.2

SIC CODE : 7631

Watch, clock, and jewelry repair

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
A – Acids	5	2	0	0	0	0	0	0	0	0	0
Percentage (%)	20.8	66.7	0	0	0	0	0	0	0	0	0
I – Dry Cell Batteries	0	0	0	0	0	3	0	0	0	0	0
Percentage (%)	0	0	0	0	0	3	0	0	0	0	0
J – Fuels	0	0	0	0	0	0	0	0	0	0	8
Percentage (%)	0	0	0	0	0	0	0	0	0	0	25.8
K – Halogenated Spent Solvents	4	0	0	0	0	0	0	0	0	0	14
Percentage (%)	16.7	0	0	0	0	0	0	0	0	0	45.2
N – Miscellaneous Organic Waste	0	1	0	0	0	0	0	0	0	0	0
Percentage (%)	0	33.3	0	0	0	0	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol	2	0	0	1	0	0	0	0	0	0	8
Percentage (%)	8.3	0	0	100	0	0	0	0	0	0	25.8
P – Oil Wastes	0	0	0	0	0	0	0	0	0	0	1
Percentage (%)	0	0	0	0	0	0	0	0	0	0	3.2
V – Acidic Solutions Containing Metals	0	0	0	0	0	0	1	0	0	0	0
Percentage (%)	0	0	0	0	0	0	100	0	0	0	0
Z – Containers of Hazardous Materials	13	0	0	0	0	96	0	0	0	0	0
Percentage (%)	54.2	0	0	0	0	97	0	0	0	0	0
PERCENTAGE	15.1	1.9	0	0.6	0	62.3	0.6	0	0	0	19.5

SIC CODE : 7641

Reupholstery and furniture repair

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z – Containers of Hazardous Materials	5	0	0	0	0	0	0	0	0	0	0
Percentage (%)	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 7699

Repair services, nec

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
E – Anti-Freeze	0	0	0	0	0	0	0	60	0	0	0
Percentage (%)	0	0	0	0	0	0	0	98.4	0	0	0
F – Freon	0	0	0	0	0	0	0	1	0	0	0
Percentage (%)	0	0	0	0	0	0	0	1.6	0	0	0
O – Non-Halogenated Spent Solvents, Varsol	0	0	0	0	0	1060	0	0	0	0	0
Percentage (%)	0	0	0	0	0	15	0	0	0	0	0
P – Oil Wastes	0	0	0	0	0	6000	0	0	0	0	0
Percentage (%)	0	0	0	0	0	85	0	0	0	0	0
Z – Containers of Hazardous Materials	636	0	0	0	0	0	0	0	0	0	0
Percentage (%)	100	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	8.2	0	0	0	0	91	0	0.8	0	0	0

SIC CODE : 7922

Theatrical producers and services

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
E – Anti-Freeze Percentage (%)	0	0	0	0	0	0	0	0	24	0	0
I – Dry Cell Batteries Percentage (%)	0	0	0	0	0	0	0	0	17.6	0	0
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	0	0	0	0	0	10	0	0
									7.4	0	0
P – Oil Wastes Percentage (%)	0	0	0	0	0	0	0	0	36	0	0
									26.5	0	0
Z – Containers of Hazardous Materials Percentage (%)	0	0	0	0	0	0	0	0	40	0	0
									29.4	0	0
PERCENTAGE	0	0	0	0	0	0	0	0	26	0	0
									19.1	0	0
									100	0	0

SIC CODE : 7992

Public golf courses

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
Z – Containers of Hazardous Materials Percentage (%)	10	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	100	0	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0	0

SIC CODE : 7996

Amusement parks

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
L – Lead-Acid Batteries Percentage (%)	0	0	0	0	0	0	0	0	0	0	2
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	0	0	0	0	0	0	0	0.2
									340	0	340
P – Oil Wastes Percentage (%)	0	0	0	0	0	0	0	0	0	0	38.8
									511	0	511
Z – Containers of Hazardous Materials Percentage (%)	0	0	0	0	0	0	37	0	0	0	58.3
							100	0	0	0	23
PERCENTAGE	0	0	0	0	0	0	4.1	0	0	0	2.6
									95.9	0	95.9

SIC CODE : 8011

Offices & clinics of medical doctors

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
B – Adhesives, Resins & Plastics Percentage (%)	4	0	0	0	0	0	0	0	0	0	1
D – Alkaline Solutions Percentage (%)	2	0	0	0	0	0	0	0	0	0	2.2
I – Dry Cell Batteries Percentage (%)	36	0	0	0	0	0	0	0	0	0	0
O – Non – Halogenated Spent Solvents, Varsol Percentage (%)	18.3	0	0	0	0	0	0	0	0	0	0
T – Pharmaceuticals & Medical Wastes Percentage (%)	0	0	0	0	0	0	0	0	320	0	0
Z – Containers of Hazardous Materials Percentage (%)	0	0	0	0	0	0	0	0	82.1	0	0
PERCENTAGE	26.3	15.5	0	0	0	0	0	0	52.1	0	6.1

SIC CODE : 8021

Offices and clinics of dentists

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
D – Alkaline Solutions Percentage (%)	0	56	0	0	0	0	0	0	0	0	0
O – Non – Halogenated Spent Solvents, Varsol Percentage (%)	0	9.3	0	0	0	0	0	0	0	0	0
P – Oil Wastes Percentage (%)	0	96	0	0	0	0	0	0	0	0	0
S – Photoprocessing Wastes Percentage (%)	0	15.9	0	0	0	0	0	0	0	0	0
T – Pharmaceuticals & Medical Wastes Percentage (%)	0	1	0	0	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	0	0.2	0	0	0	0	0	0	0	0	0
PERCENTAGE	0	181	0	24	0	208	0	0	0	0	0
	0	30	0	8.4	0	38.2	0	0	0	0	0
	520	269	0	262	0	337	0	0	0	0	0
	81.1	44.6	0	91.6	0	61.8	0	0	0	0	0
	121	0	0	0	0	0	0	0	0	0	0
	18.9	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	30.9	29.1	0	13.8	0	26.3	0	0	0	0	0

SIC CODE : 8071

Medical laboratories

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
A – Acids Percentage (%)	0	6	0	0	0	0	0	0	0	0	0
C – Aerosols Percentage (%)	0	0.1	0	0	0	0	0	0	0	0	0
D – Alkaline Solutions Percentage (%)	0	1	0	0	0	0	0	0	0	0	0
N – Miscellaneous Organic Waste Percentage (%)	0	0	0	0	0	0	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	1560	0	0	0	0	0	0	0	0	0
S – Photoprocessing Wastes Percentage (%)	0	38.3	0	0	0	0	0	0	0	0	0
T – Pharmaceuticals & Medical Wastes Percentage (%)	0	0	0	0	0	12	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	0	0	0	0	0	147	0	0	0	0	0
PERCENTAGE	0	0	0	0	0	0	0	0	0	0	0
	0	2503	0	0	0	1350	0	5994	0	0	0
	0	61.5	0	0	0	0.4	0	100	0	0	0
	0	0	0	0	1	312000	0	0	0	0	0
	0	0	0	0	100	99.5	0	0	0	0	0
	36	0	0	0	0	0	120	0	0	0	0
	100	0	0	0	0	0	100	0	0	0	0
	0	1.3	0	0	0	96.8	0	1.9	0	0	0

SIC CODE : 8072

Dental laboratories

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
B – Adhesives, Resins & Plastics Percentage (%)	0	0	0	0	0	0	0	0	0	0	8
T – Pharmaceuticals & Medical Wastes Percentage (%)	8	1	0	0	0	0	0	0	0	0	100
Z – Containers of Hazardous Materials Percentage (%)	22.9	100	0	0	0	0	0	0	0	0	0
PERCENTAGE	27	0	0	0	0	0	0	0	0	0	0
	77.1	0	0	0	0	0	0	0	0	0	0
	79.5	2.3	0	0	0	0	0	0	0	0	18.2

SIC CODE : 8211

Elementary and secondary schools

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
D – Alkaline Solutions Percentage (%)	0	96	0	0	0	0	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol Percentage (%)	0	96	0	0	0	0	0	0	0	0	0
S – Photoprocessing Wastes Percentage (%)	12	4	0	0	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	32.4	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	25	0	0	0	0	0	0	0	0	0	0
	67.6	0	0	0	0	0	0	0	0	0	0
	27	73	0	0	0	0	0	0	0	0	0

SIC CODE : 8221

Colleges and universities

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
S -- Photoprocessing Wastes	0	193	0	0	0	1	0	0	0	0	0
Percentage (%)	0	100	0	0	0	50	0	0	0	0	0
T -- Pharmaceuticals & Medical Wastes	0	0	0	13000	0	1	0	0	0	0	0
Percentage (%)	0	0	0	100	0	50	0	0	0	0	0
PERCENTAGE	0	1.5	0	98.5	0	0	0	0	0	0	0

SIC CODE : 8249

Vocational schools, nec

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
D -- Alkaline Solutions	0	58	0	0	0	0	0	0	0	0	0
Percentage (%)	0	24.7	0	0	0	0	0	0	0	0	0
M -- Miscellaneous Inorganic Waste	0	156	0	0	0	0	0	0	0	0	0
Percentage (%)	0	66.4	0	0	0	0	0	0	0	0	0
N -- Miscellaneous Organic Waste	0	21	0	0	0	0	0	0	0	0	0
Percentage (%)	0	8.9	0	0	0	0	0	0	0	0	0
O -- Non-Halogenated Spent Solvents, Varsol	8	0	0	0	0	0	0	0	0	0	0
Percentage (%)	2.4	0	0	0	0	0	0	0	0	0	0
Z -- Containers of Hazardous Materials	327	0	0	0	0	0	0	0	0	0	0
Percentage (%)	97.6	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	58.8	41.2	0	0	0	0	0	0	0	0	0

SIC CODE : 8412

Museums and art galleries

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
A – Acids Percentage (%)	0	1 33.3	0	0	0	0	0	0	0	0	0
D – Alkaline Solutions Percentage (%)	0	1 33.3	0	0	0	0	0	0	0	0	0
J – Fuels Percentage (%)	0	0	0	0	0	0	0	0	10 62.5	0	0
M – Miscellaneous Inorganic Waste Percentage (%)	0	1 33.3	0	0	0	0	0	0	0	0	0
O – Non – Halogenated Spent Solvents, Varsol Percentage (%)	4 2.9	0	0	5 100	0	0	28 84.8	0	6 37.5	0	0
Q – Paints, Coatings & Wood Preservatives Percentage (%)	9 6.5	0	0	0	0	0	5 15.2	0	0	0	1 100
S – Photoprocessing Wastes Percentage (%)	6 4.3	0	0	0	0	0	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	120 86.3	0	0	0	0	0	0	0	0	0	0
PERCENTAGE	70.6	1.5	0	2.5	0	0	16.8	0	8.1	0	0.5

SIC CODE : 8731

Commercial physical research

Waste Group	Garbage/ Dumpster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
K – Halogenated Spent Solvents Percentage (%)	0	0	0	0	0	24	0	0	0	0	0
O – Non – Halogenated Spent Solvents, Varsol Percentage (%)	0	0	0	0	0	25	0	0	0	0	0
Z – Containers of Hazardous Materials Percentage (%)	0	0	0	0	0	25	0	0	0	0	0
PERCENTAGE	0	0	0	0	0	48 50 100	0	0	0	0	0

SIC CODE : ALL

Waste Group	Garbage/ Dumppster	Sanitary Sewer	Storm Sewer	On-Site Treatment	Self to Landfill	Pick-up by Reg. Hauler	Reused	Recycled	HHW Depot Personal	Incinerate	Other Dumping
A – Acids	5	398	0	0	0	0	0	0	0	0	0
Percentage (%)	0	0.8	0	0	0	0	0	0	0	0	0
B – Adhesives, Resins & Plastics	83	0	0	0	0	0	0	0	0	0	9
Percentage (%)	0.3	0	0	0	0	0	0	0	0	0	0.2
C – Aerosols	0	1	0	0	0	0	0	0	0	0	0
Percentage (%)	0	0	0	0	0	0	0	0	0	0	0
D – Alkaline Solutions	36	2177	0	0	0	400	0	0	0	0	0
Percentage (%)	0.1	4.4	0	0	0	0.1	0	0	0	0	0
E – Anti-Freeze	0	0	0	8	0	6104	770	320	24	0	0
Percentage (%)	0	0	0	0	0	1.3	19.2	1.1	3.9	0	0
F – Freon	0	0	0	1	0	0	2	26	0	0	0
Percentage (%)	0	0	0	0	0	0	0	0.1	0	0	0
G – Detergents & Soaps	0	1	0	0	0	0	0	0	0	0	0
Percentage (%)	0	0	0	0	0	0	0	0	0	0	0
H – Dry Cleaning Solutions	750	0	0	1961	0	0	0	0	0	0	12
Percentage (%)	2.6	0	0	11.1	0	0	0	0	0	0	0.3
I – Dry Cell Batteries	104	0	0	0	0	15	0	0	330	0	0
Percentage (%)	0.4	0	0	0	0	0	0	0	53.7	0	0
J – Fuels	52	0	0	0	0	80	0	0	10	0	654
Percentage (%)	0.2	0	0	0	0	0	0	0	1.6	0	16.7
K – Halogenated Spent Solvents	4	245	0	0	0	24	0	0	0	0	14
Percentage (%)	0	0.5	0	0	0	0	0	0	0	0	0.4
L – Lead-Acid Batteries	0	0	0	0	0	668	0	771	0	0	2
Percentage (%)	0	0	0	0	0	0.1	0	2.7	0	0	0.1
M – Miscellaneous Inorganic Waste	0	500	0	0	0	0	0	0	0	0	0
Percentage (%)	0	1	0	0	0	0	0	0	0	0	0
N – Miscellaneous Organic Waste	0	639	8	5	0	12	0	0	0	0	0
Percentage (%)	0	1.3	100	0	0	0	0	0	0	0	0
O – Non-Halogenated Spent Solvents, Varsol	74	3434	0	922	0	8948	112	301	42	0	405
Percentage (%)	0.3	6.9	0	5.2	0	1.8	2.8	1.1	6.8	0	10.4
P – Oil Wastes	7319	83	0	1108	0	132035	455	5078	64	0	1090
Percentage (%)	25.5	0.2	0	6.3	0	27	11.4	17.9	10.4	0	27.9
Q – Paints, Coatings & Wood Preservatives	4030	1	0	0	0	0	213	0	24	0	21
Percentage (%)	14	0	0	0	0	0	5.3	0	3.9	0	0.5
R – Pesticide Solutions	0	0	0	0	0	544	285	0	0	0	1103
Percentage (%)	0	0	0	0	0	0.1	7.1	0	0	0	28.2
S – Photoprocessing Wastes	538	38553	0	24	0	8619	1300	18995	0	0	95
Percentage (%)	1.9	78	0	0.1	0	1.8	32.5	67	0	0	2.4
T – Pharmaceuticals & Medical Wastes	714	1520	0	13263	0	326665	144	0	70	0	45
Percentage (%)	2.5	3.1	0	75.2	0	66.9	3.6	0	11.4	0	1.2
U – Printing Solutions	332	715	0	336	0	297	468	104	0	0	12
Percentage (%)	1.2	1.4	0	1.9	0	0.1	11.7	0.4	0	0	0.3

[illegible]

**Appendix A - 2 - Waste Quantities, per Business and per Employee,
by SIC Code**

SIC CODE : 0742 Veterinary services, specialties	Waste per Business	Waste per Employee	Waste Stream Composition
N – Miscellaneous Organic Waste	2.8 L/yr	0.8 L/yr	0.1 %
S – Photoprocessing Wastes	82.8 L/yr	23 L/yr	2.8 %
T – Pharmaceuticals & Medical Wastes	2833. L/yr	787.1 L/yr	94.4 %
U – Printing Solutions	81.6 L/yr	22.7 L/yr	2.7 %
Z – Containers of Hazardous Materials	0.8 /yr	0.2 /yr	0 %

SIC CODE : 0782 Lawn and garden services	Waste per Business	Waste per Employee	Waste Stream Composition
O – Non–Halogenated Spent Solvents, Varsol	8 L/yr	1.9 L/yr	0.9 %
P – Oil Wastes	5.2 L/yr	1.2 L/yr	0.6 %
R – Pesticide Solutions	385.8 L/yr	91.9 L/yr	41.2 %
Z – Containers of Hazardous Materials	537.8 /yr	128 /yr	57.4 %

SIC CODE : 1611 Highway and street construction	Waste per Business	Waste per Employee	Waste Stream Composition
L – Lead–Acid Batteries	5 /yr	0.3 /yr	0.3 %
P – Oil Wastes	1800 L/yr	120 L/yr	99.7 %

SIC CODE : 1623 Water, sewer, and utility lines	Waste per Business	Waste per Employee	Waste Stream Composition
L – Lead–Acid Batteries	1 /yr	0.1 /yr	0.5 %
P – Oil Wastes	200 L/yr	25 L/yr	99.3 %
Z – Containers of Hazardous Materials	0.5 /yr	0.1 /yr	0.2 %

SIC CODE : 1711 Plumbing, heating, air–conditioning	Waste per Business	Waste per Employee	Waste Stream Composition
D – Alkaline Solutions	8 L/yr	3.2 L/yr	4.9 %
F – Freon	1 L/yr	0.4 L/yr	0.6 %
O – Non–Halogenated Spent Solvents, Varsol	0.5 L/yr	0.2 L/yr	0.3 %
P – Oil Wastes	145 L/yr	58 L/yr	89 %
Z – Containers of Hazardous Materials	8.5 /yr	3.4 /yr	5.2 %

SIC CODE : 1721 Painting and paper hanging	Waste per Business	Waste per Employee	Waste Stream Composition
O – Non–Halogenated Spent Solvents, Varsol	42 L/yr	42 L/yr	19.5 %
Q – Paints, Coatings & Wood Perservatives	109 L/yr	109 L/yr	50.7 %
Z – Containers of Hazardous Materials	64 /yr	64 /yr	29.8 %

SIC CODE : 1743 Terrazzo, tile, marble, mosaic work	Waste per Business	Waste per Employee	Waste Stream Composition
O – Non–Halogenated Spent Solvents, Varsol	20 L/yr	10 L/yr	14 %
Z – Containers of Hazardous Materials	123.3 /yr	61.7 /yr	86 %

SIC CODE : 1794 Excavation work	Waste per Business	Waste per Employee	Waste Stream Composition
L – Lead–Acid Batteries	2.5 /yr	1 /yr	1.2 %
P – Oil Wastes	210 L/yr	84 L/yr	98.6 %
Z – Containers of Hazardous Materials	0.5 /yr	0.2 /yr	0.2 %

Stage 2b – Summary Report – Waste Quantities by SIC Code

SIC CODE : 2434 Wood kitchen cabinets	Waste per Business	Waste per Employee	Waste Stream Composition
B – Adhesives, Resins & Plastics	24 L/yr	7.2 L/yr	31.4 %
O – Non–Halogenated Spent Solvents, Varsol	25 L/yr	7.5 L/yr	32.8 %
Q – Paints, Coatings & Wood Preservatives	9 L/yr	2.7 L/yr	11.8 %
Z – Containers of Hazardous Materials	18.3 /yr	5.5 /yr	24 %

SIC CODE : 2542 Partitions and fixtures, except wood	Waste per Business	Waste per Employee	Waste Stream Composition
Z – Containers of Hazardous Materials	480 /yr	7.7 /yr	100 %

SIC CODE : 2752 Commercial printing, lithographic	Waste per Business	Waste per Employee	Waste Stream Composition
O – Non–Halogenated Spent Solvents, Varsol	120 L/yr	24 L/yr	33 %
S – Photoprocessing Wastes	5 L/yr	1 L/yr	1.4 %
U – Printing Solutions	238.5 L/yr	47.7 L/yr	65.6 %

SIC CODE : 2759 Commercial printing, nec	Waste per Business	Waste per Employee	Waste Stream Composition
D – Alkaline Solutions	53 L/yr	11.8 L/yr	8.3 %
H – Dry Cleaning Solutions	3 L/yr	0.7 L/yr	0.5 %
O – Non–Halogenated Spent Solvents, Varsol	231.5 L/yr	51.4 L/yr	36.1 %
U – Printing Solutions	320.5 L/yr	71.2 L/yr	50 %
Z – Containers of Hazardous Materials	33.5 /yr	7.4 /yr	5.2 %

SIC CODE : 3253 Ceramic wall and floor tile	Waste per Business	Waste per Employee	Waste Stream Composition
Z – Containers of Hazardous Materials	0.5 /yr	0.1 /yr	100 %

SIC CODE : 3443 Fabricated plate work (boiler shops)	Waste per Business	Waste per Employee	Waste Stream Composition
J – Fuels	520 L/yr	17.3 L/yr	40.5 %
P – Oil Wastes	245 L/yr	8.2 L/yr	19.1 %
Z – Containers of Hazardous Materials	520 /yr	17.3 /yr	40.5 %

SIC CODE : 3541 Machine tools, metal cutting types	Waste per Business	Waste per Employee	Waste Stream Composition
P – Oil Wastes	48 L/yr	4 L/yr	98 %
Z – Containers of Hazardous Materials	1 /yr	0.1 /yr	2 %

SIC CODE : 3843 Dental equipment and supplies	Waste per Business	Waste per Employee	Waste Stream Composition
A – Acids	4 L/yr	0.8 L/yr	21.1 %
B – Adhesives, Resins & Plastics	7 L/yr	1.4 L/yr	36.8 %
K – Halogenated Spent Solvents	5 L/yr	1 L/yr	26.3 %
O – Non–Halogenated Spent Solvents, Varsol	3 L/yr	0.6 L/yr	15.8 %

SIC CODE : 3911 Jewelry, precious metal	Waste per Business	Waste per Employee	Waste Stream Composition
A – Acids	1 L/yr	0.1 L/yr	1.6 %
M – Miscellaneous Inorganic Waste	52 L/yr	5.8 L/yr	83.9 %
O – Non–Halogenated Spent Solvents, Varsol	9 L/yr	1 L/yr	14.5 %

Appendix A - 3 - Multiple Choice Questions

13. Is Business a small quantity hazardous waste generator?

- A 36.3 % Yes, Business small quantity generator
- B 22.5 % No, business is above regulations
- C 41.3 % No, business does not generate hazardous waste

14. In past, did business use high priority waste mgmt method?

- 6.7 % Yes
- 93.3 % No

15. Future plans to use high priority hazardous waste mgmt method?

- 21.7 % Yes
- 78.3 % No

16. Forsee any related problems or concerns ?

- 25 % Yes
- 75 % No

17. Where do you get info about new developments in business ops ?

- A 0.8 % Trade Shows
- B 10 % Trade Magazines or journals
- C 5.8 % Trade associations
- D 0.8 % Regular newspapers or journals
- E 82.5 % Other

WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEMS

19. What is known about WHMIS Right ot know legislation ?

- 38.3 % Yes
- 61.7 % No

20. Majority of employees aware of WHMIS warning labels?

- 46.7 % Yes
- 53.3 % No

21. What is known about Material Safety Data Sheets (MSDS) ?

- 34.6 % Yes
- 65.4 % No

22. MSDS available for Employees in workplace ?

- 35 % Yes
- 65 % No

23. Workplace provide training on use of WHMIS & MSDS Information ?

- 29.6 % Yes
- 70.4 % No

SUMMARY OF WASTE MANAGEMENT METHODS

24A. Reduction of Wastes

A	23.3	% Already doing it
B	1.7	% No, due to costs
C	0	% No, too inconvenient
D	13.8	% Yes, if information is available
E	61.3	% Not applicable

24B. Reuse of wastes

A	24.6	% Already doing it
B	0.4	% No, due to costs
C	0.4	% No, too inconvenient
D	7.5	% Yes, if information is available
E	67.1	% Not applicable

24C. Recycling of wastes

A	23.3	% Already doing it
B	1.7	% No, due to costs
C	1.7	% No, too inconvenient
D	16.3	% Yes, if information is available
E	57.1	% Not applicable

24D. Substitution of less hazardous raw materials

A	13.8	% Already doing it
B	0.4	% No, due to costs
C	0.4	% No, too inconvenient
D	29.6	% Yes, if information is available
E	55.8	% Not applicable

24E. Substitution of process or equipment that generates less waste

A	11.3	% Already doing it
B	5	% No, due to costs
C	0.8	% No, too inconvenient
D	11.3	% Yes, if information is available
E	71.7	% Not applicable

24F. Hazardous waste collection service

A	23.3	% Already doing it
B	6.3	% No, due to costs
C	0.8	% No, too inconvenient
D	19.2	% Yes, if information is available
E	50.4	% Not applicable

24G. Hazardous waste drop-off facility

A	8.8	% Already doing it
B	2.1	% No, due to costs
C	11.7	% No, too inconvenient
D	24.2	% Yes, if information is available
E	53.3	% Not applicable

24H. Annual hazardous waste collection day

- | | | |
|---|--------|----------------------------------|
| A | 1.3 % | Already doing it |
| B | 1.3 % | No, due to costs |
| C | 10.4 % | No, too inconvenient |
| D | 25 % | Yes, if information is available |
| E | 62.1 % | Not applicable |

24I. On-site treatment

- | | | |
|---|--------|----------------------------------|
| A | 11.3 % | Already doing it |
| B | 3.3 % | No, due to costs |
| C | 0.4 % | No, too inconvenient |
| D | 6.3 % | Yes, if information is available |
| E | 78.8 % | Not applicable |

24J. Utilizing waste as a product

- | | | |
|---|--------|----------------------------------|
| A | 6.3 % | Already doing it |
| B | 0 % | No, due to costs |
| C | 0.4 % | No, too inconvenient |
| D | 5 % | Yes, if information is available |
| E | 88.3 % | Not applicable |

QUESTIONS 25-34 identify:

- information on the business' hazardous waste management methods
- hazardous waste disposal costs
- opinions on the business' preferred hazardous waste mgmt. methods and cost options

25. Business ever used or considered disposal methods not mentioned ?

- | | |
|--------|-----|
| 9.6 % | Yes |
| 90.4 % | No |

26. Compared to 5 yrs ago, generate & dispose of more,less,same amount of waste

- | | | |
|---|--------|---------|
| A | 15 % | More |
| B | 47.1 % | Less |
| C | 37.9 % | Same |
| D | 0 % | Unknown |

27. What accounts for change in amount of hazardous waste generated & disposed

- | | | |
|---|--------|---------------------------------------|
| A | 59.8 % | Increase or decrease in sales |
| B | 4.6 % | Change in raw material used |
| C | 9.2 % | Change in process or technology |
| D | 2.3 % | Investment in new equipment |
| E | 1.1 % | Increased on-site reduction programs |
| F | 1.1 % | Increased on-site reuse programs |
| G | 1.1 % | Increased on-site re-cycling programs |
| H | 0 % | Increased on-site waste treatment |
| I | 20.7 % | Other |

28. Approx how much waste disposed results from spills, damaged or returned products

- | | | |
|---|-------|------------|
| A | 2.9 % | All |
| B | 6.4 % | Some |
| C | 90 % | Negligible |
| D | 0.7 % | Unknown |

29. Business use or prepared emergency plans for fire or spill ?

44.2 % Yes

55.8 % No

30. Currently use a pick-up service to dispose of hazardous waste ?

24.2 % Yes

75.8 % No

NOTE:	YES answers to question 30 are designated by Y for questions 31-34 NO answers are designated by N of questions 31-34
--------------	---

31N. If available, how often would business use pick-up service ?

A	18.3 % Once per year
B	23.2 % Twice per Year
C	24.4 % Monthly
D	7.3 % Weekly
E	26.8 % Never

31Y. How often does business use pick-up service to dispose of hazardous waste ?

A	12.1 % Once per year
B	27.6 % Twice per year
C	34.5 % Monthly
D	25.9 % Weekly
E	0 % Never

32N. How much would you be willing to pay for hazardous waste collection service?

A	23.5 %	\$0
B	37 %	\$1 to \$99/year
C	13.6 %	\$100 to \$499/year
D	1.2 %	\$500 to \$999/year
E	2.5 %	More than \$1,000/year
F	22.2 %	Would not utilize service

32Y. Approximately, what are current annual costs for hazardous waste disposal ?

A	12.7 %	\$0/year
B	3.6 %	\$1 to \$99/year
C	18.2 %	\$100 to \$499/year
D	21.8 %	\$500 to \$999/year
E	20 %	\$1,000 to \$1,999/year
F	7.3 %	\$2,000 to \$4,999/year
G	16.4 %	Greater than \$5,000/year

33N. If available, how often would business use drop-off facility ?

A	20.7 % Once per year
B	18.3 % Twice per year
C	32.9 % Monthly
D	6.1 % Weekly
E	22 % Never

33Y. If available, how often would business use drop-off facility ?

A	3.7 % Once per year
B	33.3 % Twice per year
C	51.9 % Monthly
D	11.1 % Weekly
E	0 % Never
F	0 % Not applicable, would continue pick-up service

34N. If available, how much would business be willing to pay for drop off facility?

- | | | |
|---|--------|----------------------------|
| A | 23.5 % | \$0 |
| B | 45.7 % | \$1 to \$99/year |
| C | 9.9 % | \$100 to \$499/year |
| D | 1.2 % | \$500 to \$999/year |
| E | 1.2 % | More than \$1,000/Year |
| F | 18.5 % | Would not utilize facility |

34Y. If available, how much would business be willing to pay for drop-off facility?

- | | | |
|---|--------|--|
| A | 8.6 % | \$0/year |
| B | 15.5 % | \$1 to \$99/year |
| C | 12.1 % | \$100 to \$499/year |
| D | 1.7 % | \$500 to \$999/year |
| E | 6.9 % | More than \$1,000/year |
| F | 55.2 % | Not applicable, would continue pick-up service |

QUESTIONS 36-38 ask for businesses opinions on a number of relevant topics

36. Should hazardous waste management be regulated ?

- | | | |
|---|--------|---|
| A | 67.1 % | Government regulation |
| B | 11.4 % | Self-regulation with information provided |
| C | 14.3 % | Guidelines through business associations |
| D | 0 % | Should not be regulated |
| E | 7.1 % | Other |

37. Who should be most responsible for hazardous waste mgmt for SQGs?

- | | | |
|---|--------|--------------------------------------|
| A | 9.6 % | Government |
| B | 60.7 % | Small quantity generators |
| C | 29.6 % | Manufacturers of hazardous materials |

38. What needs to happen for business to reduce amount of hazardous waste generated

- | | | |
|---|--------|---|
| A | 38.6 % | Substitution of less hazardous material (manufacturers) |
| B | 12.1 % | New operating or maintenance methods |
| C | 1.4 % | Regulations |
| D | 47.9 % | Other |

39. Aware exempt from regulation, but should use safe disposal?

- | | |
|--------|-------------------|
| 16.3 % | Yes |
| 83.8 % | No/Not applicable |

QUESTIONS 40-42 ask for comments and if the business want to receive more information

40A. Comments related to Small Quantity Hazardous Waste Generation

- | | |
|--------|-----|
| 23.8 % | Yes |
| 76.3 % | No |

40B. Concerns, question or recommendations ?

- | | |
|--------|-----|
| 29.2 % | Yes |
| 70.8 % | No |

41. Comments on survey ?

- | | |
|--------|-----|
| 33.8 % | Yes |
| 66.3 % | No |

42. Would you like R.Cave & Associates to contact again ?

- | | | | |
|--------|-----|--------|----|
| 27.5 % | Yes | 72.5 % | No |
|--------|-----|--------|----|

Appendix A - 4 - Answers and Comments to Questions

14. In past, did business use high priority waste management method?

SIC CODE : 0742

silver recovery for x-ray pickup program

SIC CODE : 0782

now using "post-emergent" spot spraying, instead of pre-emergent

SIC CODE : 3911

15 years ago switched from sulphuric acid to brassic acid

SIC CODE : 5541

tried bulk oil & washer fld. recycling container, cont. w/ a-frez

SIC CODE : 5946

head office handled p/u, disposal, recycling of chemicals

used to recycle – silver recovery, eliminated with Champion

SIC CODE : 7261

stored embalming fluid in container for hauler p/u, too costly

SIC CODE : 7353

Removed asbestos wiring from building.

SIC CODE : 7384

used to have company pick up fixer for paper, company went under

SIC CODE : 7514

washer fluid used to be in 45 gal. drums, less expensive smaller

SIC CODE : 7641

fabric sealer came in small bottles, switched to 5 Gallon last yr

SIC CODE : 7699

tried a water-based degreaser, did not work well

SIC CODE : 7992

tried to use as req'd, found less is used with regular spraying

SIC CODE : 8021

Amalgum used to be recycled through head office, now independent

SIC CODE : 8071

manuf. supplied premixed chemicals, waste chemicals picked up

SIC CODE : 8249

used to be able to get larger quantities from suppliers

15. Future plans to use high priority hazardous waste management method?

SIC CODE : 0742

looking at commercial firm to p/u chemical waste

Silver recovery, buy new xray equipment once old one breaks.

SIC CODE : 1711

look at freon reclaimr. cost and efficiency of unit is a factor

SIC CODE : 1721

moving to latex paint

SIC CODE : 2542

RECYCLE WASTE FROM EPOXY PLASTIC POWDER

SIC CODE : 2752

A and B developer – trying to get more information

SIC CODE : 2759

screen reclaimr – expensive

move to citrus based cleaning soln – solvent substitute

looking forward to water based ink

SIC CODE : 4231

OIL FILTER CRUSHER

SIC CODE : 5251

Paint & other items may be recycled by suppliers paint factory

SIC CODE : 5511

new recycling equipment for ozone-friendly air conditioner fluids

SIC CODE : 5521

Marketplace reduces thereby affecting everyone down the line.

SIC CODE : 5531

UAP is setting up an inhouse battery collection/recycle program

SIC CODE : 5541

oil bulk dispensing, spill contmt box, inventory mgnt., vap. reco

SIC CODE : 5571

would like to recycle tires

SIC CODE : 7216

coming up with odourless solv.#2, looking another vapour reclaim
fix his solvent distillation column

SIC CODE : 7231

if available

buy perms in bulk, reuse of plastic bottles

SIC CODE : 7261

need information on less hazardous materials

SIC CODE : 7311

constantly looking for new methods

new equipment for colour scanning may eliminate need for stats

SIC CODE : 7334

if available

only if new technology came out

SIC CODE : 7342

want to reuse or recycle cardboard boxes

optimized process to reduce amount of chemical needed for use

SIC CODE : 7384

switching to Champion, cost effective, better for environment

may switch to enviro chemistry, or champion photochemistry

SIC CODE : 7514

bulk oil – still looking at it

SIC CODE : 7532

Recycle crushed cans/Substitute water-based paints when available

Water-based paints, high-volume low-pressure spray guns

SIC CODE : 7537

waste oil furnace – disposal cost too much

SIC CODE : 7538

doing as much as possible

switched to recycled oil

citrus based parts cleaner

bought low grade recycled oil for certain retail purposes

if information is available

recycling oil filters

SIC CODE : 7631

containers for chemicals could be recycled once info is available

SIC CODE : 7699

new products that are less hazardous will be tried

SIC CODE : 7996

look at less hazardous products "green" clean products

SIC CODE : 8021

called City – passed on to BFI (only company given) why?

would like to recycle amalgam, lead lining from x-rays

SIC CODE : 8071

would like to properly dispose of empty containers

Chemical use substantially reduced. Purchase less hazardous mat.

SIC CODE : 8211

cost is a major factor

SIC CODE : 8221

trying to get rid of glass, needle safety technology—expensive

SIC CODE : 8249

going to separate containers

SIC CODE : 8412

convert completely over to latex paint from oil based paint

RELY ON REGION FOR INFORMATION

16. Forsee any related problems or concerns ?

SIC CODE : 0742

- cost and safety
- expense – cost to clients
- expenses
- Cost

SIC CODE : 0782

- cost, lack of information, change legislation
- regulations in pesticide act must be changed

SIC CODE : 1711

- cost and efficiency of reclaimer

SIC CODE : 2434

- Long-term quality concerns of finished product.
- cost

SIC CODE : 2752

- quality control

SIC CODE : 2759

- costs
- costs
- lack of information

SIC CODE : 3843

- quality of substitutes

SIC CODE : 4432

- cost efficiency

SIC CODE : 5231

- WOULD LIKE TO BE A DEPOT, PROBLEM WITH PEOPLE OVERDEMANDING

SIC CODE : 5251

- costs, time involved

SIC CODE : 5311

- costs, space requirements

SIC CODE : 5511

- high-tech cars will put us out of business unless we get educated

SIC CODE : 5541

- lack of information, storage capacity for containers for waste oi

SIC CODE : 5551

- costs, recycling should be free – make money selling product

SIC CODE : 5571

- ultimate effect of change – final experience

SIC CODE : 5941

- cannot implement system for such small quantities

SIC CODE : 5946

- costs, loss in effectiveness of material substitutes
- zenon proposed a recycle prog. too costly, storage problems

SIC CODE : 7216

- cost to fix still \$10,000

SIC CODE : 7221

- cost

SIC CODE : 7231

- shelf life of bulk solutions

SIC CODE : 7251

- quality of substitutes

SIC CODE : 7261

- cost effective, common sense must be used when setting out laws

SIC CODE : 7311

- information

SIC CODE : 7334

- costs
- compatibility and produce efficiency

Stage 2b – Summary Report – Answers and Comments to Questions

SIC CODE : 7336

costs

SIC CODE : 7353

Costs

SIC CODE : 7384

costs, lack of information

SIC CODE : 7514

costs

SIC CODE : 7532

costs

costs, convenience, material substitution – paints

Maintain quality

SIC CODE : 7538

costs

cost factor for recycling freon, anti-freeze on-site

must be legislated – across the board – by associations

Pick-up costs, People using garage as depot

cost, education of public

SIC CODE : 7631

convenience

SIC CODE : 7699

attitude of tradespeople to change old ways

SIC CODE : 7992

Cannot recycle containers

SIC CODE : 7996

costs

SIC CODE : 8011

change process

convenience

reuse = more chemicals, costs, data error from poor cleaning

SIC CODE : 8021

lack of information

getting enough information – options

SIC CODE : 8071

costs

Economics/environmental considerations.

SIC CODE : 8211

must re-educate staff regarding disposal methods

SIC CODE : 8221

cost efficiency

SIC CODE : 8412

cost

lack of information

SIC CODE : 8731

costs

17. Where does business get information on new development in business operations?

SIC CODE : 0742

a,b,c,d and sales reps

Combination of A, B, C and D.

SIC CODE : 0782

combination of b,c,

government

combination of a,b,c

SIC CODE : 1611

salesmen

SIC CODE : 1711

wholesaler, government, newsletters

SIC CODE : 1721

b, supplier store
SIC CODE : 1743
suppliers
combination of a,b,c
SIC CODE : 1794
Ministry – hydro, energy mines and resources
SIC CODE : 2434
salesmen
Salesmen
combination of b, and discussions with peers
SIC CODE : 2542
COMBINATION OF A,B,C AND SUPPLIERS
SIC CODE : 2759
combination of a,b and manufacturers
suppliers
SIC CODE : 3443
b and people in the business
SIC CODE : 3843
combination of a,b, and suppliers of new products
SIC CODE : 3911
salesmen
SIC CODE : 4215
a,b,c,d
SIC CODE : 4231
HEAD OFFICE
SIC CODE : 5093
Not applicable
SIC CODE : 5231
head office
ALL
SIC CODE : 5251
combination of a,b,c & also head office
SIC CODE : 5311
all of the above
head office
SIC CODE : 5511
B and courses, word-of-mouth
SIC CODE : 5521
Distributors and suppliers
SIC CODE : 5531
network, UAP
SIC CODE : 5541
oil company
other dealers
SIC CODE : 5561
combination of a & b
SIC CODE : 5571
A B and C
SIC CODE : 5941
head office
SIC CODE : 5945
combination of a, b and suppliers
SIC CODE : 5946
combination of b and head office
head office
b, head office
SIC CODE : 7217
b, c and suppliers
SIC CODE : 7221

Stage 2b – Summary Report – Answers and Comments to Questions

combination b,c
SIC CODE : 7231
salesmen
combination of a,b,c and manufacturers
combination of a,b,c,
SIC CODE : 7251
salesmen
manufacturers
SIC CODE : 7261
combination of a,b,c,d
a,b,c, word of mouth, regulatory boards
SIC CODE : 7291
A B and C
SIC CODE : 7311
salesmen
combination of b, d
SIC CODE : 7334
a,b,c,d
SIC CODE : 7336
combination of a,b and manufacturers
SIC CODE : 7342
combination of c and manufacturers
Ministry has declined over last 5 years, suppliers, assoc.
SIC CODE : 7353
b,c
Combination of A, B, C and D.
SIC CODE : 7384
combination of a,b,c,d
combination of a and Fuji (supplier)
b, and Fuji
SIC CODE : 7514
head office
head office
SIC CODE : 7532
dealers
combination of a,b,c and suppliers
Combination of A, B, C, and D
Combination of A,B&C. Paint suppliers, env'tal services, demos
SIC CODE : 7534
combination of b,c,Ontario Tire Dealers Assoc'n, OK Tire
SIC CODE : 7537
trade shows, trade magazines, association
combination of a,b,c
head office
Mail and suppliers
SIC CODE : 7538
all of above and salesmen
combination of b, word – of – mouth
combination B and C
suppliers
mail
combination of d and haulers like Philips Env.
government, safety klean
SIC CODE : 7631
combination of b and other people in the industry
combination of b, c
SIC CODE : 7641
from other people in the business
SIC CODE : 7699

combination of a,b and manufacturers
SIC CODE : 7992
combination of b and c
SIC CODE : 7996
b, word of mouth, suppliers
SIC CODE : 8021
combination of a,b,c
combination of a,b,c
SIC CODE : 8071
combination of c and doctors and health committees
head office
Combination A,B,C&D. Technical Standards Department.
SIC CODE : 8072
combination of a,b,c,d
SIC CODE : 8211
Board of Education, caretakers
SIC CODE : 8221
combination of above
SIC CODE : 8249
combination of a, b and head office
SIC CODE : 8412
combination of b,c and manufacturers
combination of d and staff research
MINISTRY OF CULTURE AND COMMUNICATIONS – HERITAGE DIVISION
b, word of mouth
SIC CODE : 8731
combination of a,b,c

18. Greatest problems associated with hazardous waste management ?

SIC CODE : 0742
well managed
lack of information
no problems has SPCA – x-ray – no alternatives?
inconvenience and expense
No real problems. Can look after our own little bit of HW.
SIC CODE : 0782
costs, reuse of empty containers
education, information
containers
no problem
SIC CODE : 1611
old asphalt cannot cut and patch
SIC CODE : 1623
information of environmental safety in the workplace
lack of knowledge, must enforce, infor. withheld to casual labour
SIC CODE : 1711
freon – non-regulated used – no regulations
location of places for disposal of materials
SIC CODE : 1721
lack of information
SIC CODE : 1743
disposal of containers
packaging
SIC CODE : 1794
no problems, has oil separators
SIC CODE : 2434
problem not in business – much larger – people must change
Convenience, Costs, Service for SQHWG's
ignorance

Stage 2b – Summary Report – Answers and Comments to Questions

SIC CODE : 2542

empty paint cans, plating substitutes

SIC CODE : 2752

information

information, convenience

SIC CODE : 2759

information

information, costs

process, information

exposure to fumes

SIC CODE : 3443

disposal of hazardous waste that is left by customers

SIC CODE : 3541

overkill, "everything is dangerous" example PCB's

SIC CODE : 3843

information availability

SIC CODE : 3911

no problem

SIC CODE : 4212

convenience, disposal of tires and oil

SIC CODE : 4215

no problem

SIC CODE : 4231

TIRES AND WASTE BEING LEFT IN RENTED TRUCKS

SIC CODE : 4432

costs, lack of options, information

SIC CODE : 5032

cost – have to stop looking at cost, see benefit

SIC CODE : 5231

informationj – lack of knowledge, no-one knows

information, lacking for consumers/contractors

SIC CODE : 5251

convenience, simplicity, information, organization

SIC CODE : 5311

convenience

directed from head office, no control

SIC CODE : 5511

Getting oils off of clothes and self, health effects, asbestos

SIC CODE : 5521

General environmental concerns.

SIC CODE : 5531

inefficient management, no-one takes responsibility

lack of concern by the end user

SIC CODE : 5541

ignorance of the problems

customers dumping excess gas on ground

SIC CODE : 5551

costs, information

SIC CODE : 5571

under the gun – put in a compromising position to recycle

information has not been made available

disposal cost, tires

SIC CODE : 5941

need a depot

SIC CODE : 5945

containers are not recyclable

SIC CODE : 5946

no problems

accidents?, aren't any – Champion

information, storage problems, costs
SIC CODE : 7216
no problems – have already taken steps to remove hazard
disposal, new conscientiousness
SIC CODE : 7217
government over – regulation leads to higher costs
SIC CODE : 7221
information, cost
SIC CODE : 7231
no problems
none
costs
SIC CODE : 7251
no problem
none
SIC CODE : 7261
costs, complicated process
no problems
SIC CODE : 7291
no problem
SIC CODE : 7311
small quantities are too small
paper with toner on it
no problem
SIC CODE : 7334
costs money
no problem
SIC CODE : 7336
no problem
SIC CODE : 7342
no problems
empty containers leads to disposal problems, over regulated
not knowing where things are going once they are sold
SIC CODE : 7353
proper disposal, inequality between businesses and homeowners
Not any great problem. Cost of disposal.
SIC CODE : 7384
government
plastic containers non – recyclable
no problem
SIC CODE : 7514
disposal, costs, convenience, everything
oil on paper towels
SIC CODE : 7532
no idea
costs
Lack of recycling for plastic parts made from different materials
Plastic car parts disposal. Only Chrysler pays \$10 per bumper.
SIC CODE : 7534
Regulations on Tires
SIC CODE : 7537
cost is increasing
no problems
are not problems, keep floor clean, good housekeeping
guys doing their own work at home
SIC CODE : 7538
no problem
dumping by residence
cost of disposal

Stage 2b – Summary Report – Answers and Comments to Questions

spills, oil and gasoline
proper disposal by residences doing their own oil changes
what to do with tires
costs
no problem, out of his control when it leaves
costs
Effect of Haz. waste on employees
cost, inconvenience
SIC CODE : 7631
no problems
lack of information
lack of information
SIC CODE : 7641
small quantity, products are strong
SIC CODE : 7699
retraining of tradespeople to be more careful of health & environ
SIC CODE : 7922
convenience
SIC CODE : 7992
Problem is getting workers to clean-up
SIC CODE : 7996
illegal dumping of tires from public and associated costs
SIC CODE : 8011
disposal of liquid acrylic that has exceeded shelf life
convenient disposal of expired medication
no problem
convenience
SIC CODE : 8021
no problem
disposal of biohazards
identifying what is hazardous
need someone to take the waste
SIC CODE : 8071
no problems
information on darkroom chemical disposal
do not consider it a problem, materials are under control
Few disposal companies. Costs. Need service for doctors.
SIC CODE : 8072
information
SIC CODE : 8211
hazardous waste material storage
SIC CODE : 8221
information
adherence to protocol—student not following, cost/time efficiency
SIC CODE : 8249
information
education, top down, information
SIC CODE : 8412
lack of options
fumes from turpentine and spray paints
information, change in public attitude
INFORMATION, EDUCATING STAFF
ventilation of fumes and vapour
no problem
SIC CODE : 8731
no problems

19. What is known about WHMIS Right of know legislation ?

SIC CODE : 0742

dept. of agriculture – permit as farmer to buy chemicals

SIC CODE : 0782

n/a

SIC CODE : 1623

took course

SIC CODE : 1743

from workers compensation

SIC CODE : 2759

but not for all products

SIC CODE : 3541

msds on steel!

SIC CODE : 7217

has sheets with each chemical

SIC CODE : 7261

Has WHMIS binder

SIC CODE : 7342

company guidelines

SIC CODE : 7532

Employees trained

SIC CODE : 7538

only vaguely familiar

SIC CODE : 7922

lots of paperwork, hard to impliment

SIC CODE : 8011

basic concept

read whmis manual

SIC CODE : 8211

have binder of WHMIS material

SIC CODE : 8412

basic concept

21. What is known about Material Safety Data Sheets (MSDS) ?

SIC CODE : 0742

one some containers – not all

MSDS are unreadable – too technical must be simplified

SIC CODE : 0782

n/a

SIC CODE : 1623

took course

SIC CODE : 2542

stored in binders

SIC CODE : 7216

get MSDS before products

SIC CODE : 7261

has MSDS sheets in binder

SIC CODE : 7334

has sheets but does not know how to use them

SIC CODE : 7336

info comes with delivery of products

SIC CODE : 7342

required for license

SIC CODE : 7384

Kodak makes sure store has MSDS for each chemical

SIC CODE : 7537

available for each product

SIC CODE : 7992

Problem in updating sheets– availability

SIC CODE : 8011

basic concept

SIC CODE : 8021

only dentist knows about msds

SIC CODE : 8412

A LOT ARE TOO VAGUE, SOME ARE TOO TECHNICAL

25. Business ever used or considered disposal methods not mentioned ?

SIC CODE : 0742

did have silver recovery system with pickup service

SIC CODE : 1611

old asphalt – crush and use as stone base

SIC CODE : 1711

used to use non–refillable freon cannisters, now use re–fillable

SIC CODE : 1743

had industrial disposal box – company was much bigger

SIC CODE : 2752

stored indefinitely

SIC CODE : 2759

waste removal of sludges

SIC CODE : 4231

USED TO GIVE WASTE OIL AWAY

SIC CODE : 5032

used oil to control dust

SIC CODE : 5531

cut tires into two halves for storage and stacking

SIC CODE : 5945

collecting waste from customers/students

SIC CODE : 5946

old system – silver recovery then to sewer

SIC CODE : 7216

did not dry filter cake

SIC CODE : 7334

previously disposed of overflow toner/developer in garbage

SIC CODE : 7342

want to be able to reuse empty containers

SIC CODE : 7514

used to clean out sludge from separator and dump it

SIC CODE : 7538

ten years ago – went down the drain

anti–freeze used to go down the sewers

SIC CODE : 7631

used to put solution down the toilet, now in the garbage

SIC CODE : 7922

dumping waste in garbage

SIC CODE : 8021

everything used to go in the garbage

sharps into garbage 5+ years ago

SIC CODE : 8071

put everything down the drain up to 2 years ago

SIC CODE : 8221

canister method – steel wool core for silver recovery

29. Business use or prepared emergency plans for fire or spill ?

SIC CODE : 0742

- extinguishers
- same emerg plan as hospitals
- fire plan, req'd for CVO license
- part of license for vet
- Sprinkler, extinguisher, lighted exit, fire routine

SIC CODE : 0782

- registered with fire dept, warehouse had safety equipment
- fire extinguisher in truck
- Hotline phone # (spill), call 911
- must have emergency procedures in place by law

SIC CODE : 1611

- fire protection equipment

SIC CODE : 1623

- site safety meetings

SIC CODE : 1743

- used to carry extinguisher – solvents

SIC CODE : 1794

- extinguishers

SIC CODE : 2434

- extinguishers
- Extinguisher; separate fire—proof, vented paint room
- extinguishers, hoses

SIC CODE : 2542

- evacuation procedures

SIC CODE : 2752

- extinguishers

SIC CODE : 2759

- extinguishers
- extinguishers

SIC CODE : 3541

- fire extinguishers

SIC CODE : 4215

- formed a Safety Committee

SIC CODE : 4231

- SPILL KIT, FULL PLAN

SIC CODE : 4432

- full plan, emergency response

SIC CODE : 5093

- fire extinguisher

SIC CODE : 5231

- extinguishers, absorbant
- extinguishers, "run like hell"

SIC CODE : 5311

- fire protection, extinguishers, sprinklers
- extinguishers

SIC CODE : 5521

- Extinguisher

SIC CODE : 5531

- fire extinguisher, sprinkler system

SIC CODE : 5541

- emergency procedures
- procedure plan in place for various chemical spills

SIC CODE : 5561

- extinguishers

SIC CODE : 5571

- extinguishers, eyewash
- fire extinguishers

extinguishers
SIC CODE : 5941
extinguishers
SIC CODE : 5946
absorbent for spills over 5 l, fire extinguisher
spill procedures, extinguisher
fire extinguisher, WHMIS info, Konica info on dangers of chemical
SIC CODE : 7216
for spills, and extinguishers
SIC CODE : 7251
extinguisher
extinguisher
SIC CODE : 7261
fire extinguisher
SIC CODE : 7291
extinguisher
SIC CODE : 7334
extinguishers
fire extinguisher
SIC CODE : 7342
full plan for spills
registered with fire department
containment, signage, etc. in act
SIC CODE : 7353
fire extinguisher, blankets, absorball
Extinguishers
SIC CODE : 7384
fire extinguisher
extinguisher
sprinkler, fire extinguisher
SIC CODE : 7514
fire extinguishers
SIC CODE : 7532
fire extinguisher
sprinklers, extinguishers
Sprinklers, extinguishers and marked exits
Extinguishers/CO2 system in paint booths/absorpall retaining wall
SIC CODE : 7534
fire drills
SIC CODE : 7537
extinguishers
extinguishers
extinguishers
Extinguishers
SIC CODE : 7538
absorbant, extinguishers
extinguishers
extinguishers
extinguishers
fire extinguisher
extinguishers
extinguishers
extinguishers, fire dept
extinguishers, sprinklers, fire dept
extinguishers
SIC CODE : 7631
extinguisher
fire extinguisher
SIC CODE : 7641

extinguishers
SIC CODE : 7992
extinguisher
SIC CODE : 7996
park emergency plan for chlorine spill
SIC CODE : 8011
fire dept conducted survey
SIC CODE : 8021
fire extinguisher, fire drill
extinguishers
SIC CODE : 8071
safety committee
extinguishers
Extinguishers, blankets, neutralizers, spill pillows, training
SIC CODE : 8211
fire education program, fire drill
SIC CODE : 8221
extinguishers
SIC CODE : 8249
full plan
fire extinguishers
SIC CODE : 8412
Disaster plan in draft stage, final plan next year
fire extinguisher
SIC CODE : 8731
plans for spills and fire

34N. Comments on pick-up and disposal of hazardous waste – not registered generators

SIC CODE : 1623
at the most once a year
SIC CODE : 1711
not applicable
SIC CODE : 1743
would pass cost to customers
SIC CODE : 3541
if recycling, should not have to pay
SIC CODE : 3911
not applicable
SIC CODE : 4212
pay less for drop-off
SIC CODE : 5231
head office would allocate funds for waste management
SIC CODE : 5311
reasonable cost
SIC CODE : 5541
current disposal over \$1000 for non-haz. does not want to pay any
SIC CODE : 5551
people should not make money off of recycling
SIC CODE : 7216
not necessary, problem is evaporation
SIC CODE : 7217
always at diff job sites, cannot easily take wastes to drop-off.
SIC CODE : 7231
if necessary
SIC CODE : 7251
already paying for disposal – included in mall lease cost
SIC CODE : 7311
would expect to pay minimal amount
SIC CODE : 7342

treat on-site according to labels – triple wash – no haz waste
n/a

SIC CODE : 7514

pay less for drop-off

n/a

SIC CODE : 7631

would take with HHW

SIC CODE : 8011

price sensitive because of small amounts

SIC CODE : 8021

quarterly pickup

SIC CODE : 8071

not currently possible – with current technology

SIC CODE : 8221

n/a to photochemistry

SIC CODE : 8412

costs must be geared to size of business that uses it

PAY LESS FOR DROP-OFF

quantities too small to be dropped off or picked up

34Y. Comments on pick-up and disposal of hazardous waste – registered generators

SIC CODE : 0742

pickup twice a day – great service

pickup on call, freezers required by CVO

SPCA on request

SIC CODE : 1611

pay less of drop-off

SIC CODE : 1623

less for drop-off facility

SIC CODE : 1794

no limit to cost—where would you put it—has 5 stage oil separator

SIC CODE : 2752

net effect about the same

SIC CODE : 2759

includes disposal of plastics

SIC CODE : 4231

WOULD USE DROP-OFF FOR ODD MATERIALS

SIC CODE : 4432

too large to self haul

SIC CODE : 5032

too big for drop-off

SIC CODE : 5511

Costs passed on to customer, don't care what it costs!

SIC CODE : 5531

would change if cheaper – cost for tire disposal

SIC CODE : 5571

not all waste would go to drop-off

SIC CODE : 5946

the present system is the best available – Champion (to manufac.)

SIC CODE : 7537

already using drop-off for dry waste, would not use for oil

SIC CODE : 7538

too much to drop-off

concerned with spills for drop-off

not use drop-off not convenient

not same products to drop-off as picked up

(not including oil & varsol)

SIC CODE : 8021

will pay for convenience

SIC CODE : 8071

handled by head office – unsure of disposal costs

SIC CODE : 8221

collection cost combined, waste not hazardous (autoclaved)

35. How should hazardous waste management be funded ?

SIC CODE : 0742

user pay

user–pay with subsidies from government

government everybody, business will pass it on to consumer

everyone – partnership of gov't and user

Users

SIC CODE : 0782

user–pay

government

combination of user pay & manufacturer

combination of user–pay and government

SIC CODE : 1611

government

SIC CODE : 1623

government

user–pay, if user has no money gov't ends up paying

SIC CODE : 1711

user pay

user–pay

SIC CODE : 1721

user pay

SIC CODE : 1743

through gov't that is regulating, need controls not user fees

user pay

SIC CODE : 1794

consumer should pay for what they do (user–pay)

SIC CODE : 2434

government

Government, business

combination of gov't and manufacturers

SIC CODE : 2542

user–pay

SIC CODE : 2752

government

manufacturer

SIC CODE : 2759

user pay

user pay, government

user–pay, subsidized by gov't

work into price of product – user/consumer

SIC CODE : 3443

manufacturers –surcharge go towards funding 3R's programs

SIC CODE : 3541

user–pay

SIC CODE : 3843

user pay

SIC CODE : 3911

user pay

SIC CODE : 4212

government

SIC CODE : 4215

user–pay and government

SIC CODE : 4231

USER PAY
SIC CODE : 4432
user pay
SIC CODE : 5032
user pay
SIC CODE : 5093
user-pay
SIC CODE : 5231
government with a user fee (user-pay)
combination of user pay, manufacturer, government
SIC CODE : 5251
manufacturer
SIC CODE : 5311
user pay
government
SIC CODE : 5511
Government, then everyone will be required to use or do it.
SIC CODE : 5521
Privately
SIC CODE : 5531
government
user-pay
SIC CODE : 5541
all have to pay for it – getting rid of past problems – consumer
combination of user-pay and government
SIC CODE : 5551
government
SIC CODE : 5561
user pay
SIC CODE : 5571
user pay
manufacturer
user-pay – customer
SIC CODE : 5941
local government
SIC CODE : 5945
user pay
SIC CODE : 5946
government and user-pay
privately, people making waste (user)
manufacturers should kick some of funding for disposal costs
SIC CODE : 7216
government and user
everyone – government
SIC CODE : 7217
government
SIC CODE : 7221
gov't and industry joint funding
SIC CODE : 7231
government
local government
government
SIC CODE : 7251
manufacturer
manufacturers
SIC CODE : 7261
user-pay
user-pay
SIC CODE : 7291

government
SIC CODE : 7311
user pay
user pay
user-pay
SIC CODE : 7334
government
government
SIC CODE : 7336
user-pay
SIC CODE : 7342
user pay
user-pay
suppliers, manufacturers and user – combination-cost of business
SIC CODE : 7353
all levels of government
By generator, build in cost to client/consumer.
SIC CODE : 7384
user-pay
government
user-pay
SIC CODE : 7514
user pay
government
SIC CODE : 7532
manufacturer
government
Government
User-pay
SIC CODE : 7534
government
SIC CODE : 7537
user pay
manufacturer should pay, with some grants from gov't
generator user
end user-pay – consumer – keeps everything equal
Government
SIC CODE : 7538
government
user pay
user pay
user pay
user pay
combination of gov't, manuf., user and customer
consumer (user-pay)
industry as a whole – user of the material
customers should pay a service charge
combination of user pay and government funding
combination of government & user pay, include disposal in price
SIC CODE : 7631
manufacturer
user-pay and government
manufacturers and user-pay
SIC CODE : 7641
government
SIC CODE : 7699
businesses should pay totally and not pass it on to consumers
SIC CODE : 7922
user pay

SIC CODE : 7992

manufacturer

SIC CODE : 7996

user-pay

SIC CODE : 8011

combination of manufacturers and user-pay

user pay

manufacturer

user pay

SIC CODE : 8021

user pay

user-pay

user-pay and government together – private and public enterprise

government

SIC CODE : 8071

user pay

combination of government and user-pay

business that generates the waste (user-pay)

Citizen, user-pay, onus on government

SIC CODE : 8072

government loan to users to start up programs

SIC CODE : 8211

combination of government and industry funding

SIC CODE : 8221

combination of user pay and manufacturer

would not answer

SIC CODE : 8249

user-pay

government

SIC CODE : 8412

government

combination user-pay and government

government funded

USER PAY

user-pay

combination government user pay

SIC CODE : 8731

user-pay

36. Should hazardous waste management be regulated ? (comments)

SIC CODE : 0742

should be checked

gov't must provide simplified info to businesses

combination of profess. assoc. and private business

SIC CODE : 1623

gov't makes a mess, easier licensing – reduce monopolies

SIC CODE : 1711

regulated and enforced

but up to generator to be responsible

SIC CODE : 1743

policing, enforcement needed

need regulations and incentives

SIC CODE : 1794

hazardous waste management is a rip-off

SIC CODE : 2434

gov't screws up to often

SIC CODE : 2759

requirements are too broad – need small business perspective

gov't and industry cooperation

inspection – routine check, everyone must do
SIC CODE : 3443
regulations by c, but enforcement by a
SIC CODE : 3541
combination of government and associations
SIC CODE : 3843
with government involvement in enforcing
SIC CODE : 4231
people would not do anything
SIC CODE : 5032
self regulation with government guidelines
SIC CODE : 5231
government regs are mismanaged
SIC CODE : 5311
has to be national, even global
SIC CODE : 5511
governing agency
SIC CODE : 5531
government and business association – independent party
SIC CODE : 5541
combination – enforcement and individuals to their part
combination of a and c
SIC CODE : 5551
has to be done correctly, not make money off it
SIC CODE : 5571
more than just government – enforcement
reasonable for gov't even if they screw it up
SIC CODE : 5946
gov't stds – unfortunately
combination of a and c
SIC CODE : 7216
would regulate himself, should be outside party NOT GOVERNMENT
need a hammer
SIC CODE : 7217
biz associations most knowledgeable about products they use
SIC CODE : 7221
gov't must enforce regulation
SIC CODE : 7261
joint regulation by b and c
SIC CODE : 7334
printers association more knowledgeable
SIC CODE : 7342
government should educate people regarding safe disposal methods
gov't should look at manufacturer – education through license
SIC CODE : 7353
Municipal government
SIC CODE : 7384
government and industry association cooperation
government should ask manufacturer for suggestions
SIC CODE : 7514
most unbiased shot
must be realistic
SIC CODE : 7532
government overdoes regulations
Proper enforcement for all businesses/ licensed and unlicensed!
and C
SIC CODE : 7534
with assistance to small business
SIC CODE : 7537

enforcement required
and B
SIC CODE : 7538
independent party, government too inefficient
proper enforcement
has to be enforced at all time
gov't must enforce regulations
will not get done without gov't regulation
only A will work, need info, needs to be easy
False, because government regulations are not enforced
SIC CODE : 7631
regulate at source – manufacturer
SIC CODE : 7699
combination of a,b and should be subject to inspection
SIC CODE : 7992
Government takes too long
SIC CODE : 8011
information provided through trade association
independent party
generators & disposal operators input in regulation design
SIC CODE : 8021
enforcement needed – fire dept. does it – HARP commiss. (x-ray)
SIC CODE : 8071
government not able to know each business
businesses have inside track on chemicals they use
government not enforcing, enforcement required
B
SIC CODE : 8072
combination of a, b
SIC CODE : 8211
combination of a,b
SIC CODE : 8221
need guidelines from knowledgeable persons
combination of A and B
SIC CODE : 8412
GOVERNMENT REGULATION WITH SELF REGULATION
if cost \$, people won't do it unless forced by regulation
SIC CODE : 8731
municipal government

37. Who should be most responsible for hazardous waste management for SQGs? (comments)

SIC CODE : 0742
combination of everybody
and C. 50/50
SIC CODE : 0782
combination of b, c
private responsibility
SIC CODE : 1623
both manufacturer and generator
SIC CODE : 1711
about time manufacturers took responsibility
b and c. manuf should develop less haz materials, user should use
SIC CODE : 1743
must make user fee responsible through education
SIC CODE : 1794
government should regulate what is put on the market–recyclable
SIC CODE : 2434
combination of all of the above
Combination of A & C

SIC CODE : 2759
combination of a,b,c
combination/everyone

SIC CODE : 4215
government, generator and manufacturer

SIC CODE : 5521
Government – inefficient use of funds.

SIC CODE : 5531
end-user responsible for proper disposal

SIC CODE : 5541
manufacturer and consumer

SIC CODE : 5551
manufacturer then user

SIC CODE : 5571
generator will be intermediate

SIC CODE : 5946
start with generator, reaction through system
combination of b,c

SIC CODE : 7216
both manufacturer and user – cooperation

SIC CODE : 7217
manuf. should develop less hazardous products

SIC CODE : 7221
manuf. responsible for producing less hazardous products

SIC CODE : 7261
joint responsibility of b and c

SIC CODE : 7311
both manufacturer and user

SIC CODE : 7336
combination of b, c

SIC CODE : 7342
user should have to
generator answers to manufacturer – recycling of containers

SIC CODE : 7384
cooperative program a,b,c

SIC CODE : 7532
associations & municipalities
Combination of A, B, and C. At different levels of jurisdiction.
Mfgs. are not assisting in disposing of their products.

SIC CODE : 7537
combination of b,c
manufacturers make the problem – better if less hazardous

SIC CODE : 7538
need information to carry out responsibility
Should give an incentive such as a tax credit

SIC CODE : 7631
combination of b, c

SIC CODE : 8011
privately operated disposal operators

SIC CODE : 8021
also government involvement – all responsible

SIC CODE : 8072
combination of a,b

SIC CODE : 8221
everyone is responsible
cooperation between all parties

SIC CODE : 8249
combination of the three

SIC CODE : 8412

combination of b, c

38. What needs to happen to reduce amount of hazardous waste generated? (comments)

SIC CODE : 0742

n/a

SIC CODE : 0782

a, reg should allow user to carry more concn. chemical

combination of a & c

return reusable containers to manufacturers

SIC CODE : 1611

not applicable

SIC CODE : 1623

not applicable

n/a

SIC CODE : 1711

no waste disposed

cost incentive and efficiency of product

SIC CODE : 1721

nothing

SIC CODE : 1743

nothing

SIC CODE : 1794

n/a

SIC CODE : 2542

already reduced to minimum

SIC CODE : 2759

b and new technology and products

SIC CODE : 3541

n/a

SIC CODE : 3911

business has closed

SIC CODE : 4215

a,b,c

SIC CODE : 5093

Does not understand question

SIC CODE : 5231

n/a

less sales

SIC CODE : 5311

combination of A and B

SIC CODE : 5511

change packaging, make it reusable.

SIC CODE : 5531

increase in sales would decrease number of used tires out there

nothing

SIC CODE : 5541

change in containers

SIC CODE : 5571

not applicable

not applicable

n/a

SIC CODE : 5946

combination of a,b and new technology in photodevelopment

n/a

SIC CODE : 7216

could get another tumbler to recover evaporation

SIC CODE : 7251

not applicable

SIC CODE : 7261

combination of a and b
cannot reduce waste
SIC CODE : 7334
a and b
SIC CODE : 7336
make it more convenient and less expensive
SIC CODE : 7342
not applicable
reuse of container
n/a—could substitute— proper defn. of "Less Hazardous"?
SIC CODE : 7353
N/A. Not really disposing of any HW.
SIC CODE : 7514
n/a
SIC CODE : 7532
Better recycling facilities for plastic/rubber car bumpers/parts.
SIC CODE : 7537
develop a car that does not use hazardous chemicals
n/a
SIC CODE : 7538
not applicable
not applicable
not applicable
not applicable
not applicable
combo of b and bulk storage of oil instead of 1 l containers
engineering of vehicles and products
n/a
all of the above
SIC CODE : 7631
retire
SIC CODE : 7699
combination of a,b,c
SIC CODE : 7992
All of the above, in MODERATION
SIC CODE : 8011
disposal of empty containers, chemical that exceeded shelf life
SIC CODE : 8021
b and more information on 3Rs methods available
SIC CODE : 8071
combination of a and manuf. take back of empty containers
n/a
n/a, already heavy regulated, nothing left to do.
SIC CODE : 8211
combination of a and available of suitable HHW depots
SIC CODE : 8221
n/a
SIC CODE : 8249
combination of a, b
SIC CODE : 8412
not applicable
EDUCATION
b and information

40a. Comments related to Small Quantity Hazardous Waste Generation

SIC CODE : 0742

would like a list of haz waste companies, tax problems

SIC CODE : 1711

regulated and enforced – have licenced personnel

SIC CODE : 1721

gov't needs to play more active role in haz waste mgt

SIC CODE : 1743

education & awareness

SIC CODE : 2434

educate people – provide place to take material

Service for small businesses.

SIC CODE : 2759

something has to happen with solvent evaporation

regulations must be across the board, government incentives

try to keep to a minimum—wants to do more—money is tight

SIC CODE : 3443

need pick-up or drop-off facilities for small businesses

SIC CODE : 4215

reduction, reuse and recycle programs should be implemented

SIC CODE : 4231

sees things happening in school – tire tax money? enforcement?

SIC CODE : 5032

as important as large quantities – size does not matter

SIC CODE : 5251

need drop-off sites for commercial sector

SIC CODE : 5311

must abide by the rules

people should be more aware, get involved

SIC CODE : 5511

One set of rules for everyone. Everyone legislated.

SIC CODE : 5531

need more disposal options

educate the end-user

SIC CODE : 5541

can reduce needless waste— oil bottles, need regular maintenance

public needs more education on consequences of their actions

SIC CODE : 5551

T.V. program – synthetics, make people aware

SIC CODE : 5561

The sooner you start, the better

SIC CODE : 5571

cannot go back on people who are acting responsibly

should be cradle-to-grave by manufacturer

snow mobile registration goes into general revenue – like tires!

SIC CODE : 5941

disposes of 6 bicycle tires/yr in garbage

SIC CODE : 7216

should not be delayed – should be soon

SIC CODE : 7217

cleaning carpets no worse than car wash

SIC CODE : 7221

tech. should be possible to develop less haz. materials

SIC CODE : 7231

would take any suggestions

SIC CODE : 7311

if technology cannot eliminate – must be easier disposal methods

SIC CODE : 7342

selling conc. pesticide chemicals at hardware store

SIC CODE : 7514

more people should be aware

SIC CODE : 7532

Simple to read info/give the facts/cut the crap!

SIC CODE : 7537

should make original products better & simpler

consumers doing their own work—must return used oil for new

How come other countries are ahead of us?

SIC CODE : 7538

wishes everyone would participate – strong enforcement required

should look at alternatives regardless of costs

trying to clean up the small stuff

government must check and enforce public and business

has to be legislation

try to use minimal amount – use least possible

SIC CODE : 7922

starting to tackle problem – cost not a problem

SIC CODE : 7992

Need a defined system that is clearly known, for disposal

SIC CODE : 7996

problem with public dumping tires in park's disposal bin

SIC CODE : 8011

information

SIC CODE : 8021

lack of information

SIC CODE : 8071

need better control over disposal of empty containers

Laws and provisions, especially for physicians & small practices

SIC CODE : 8249

require information on material substitution, cost is a factor

SIC CODE : 8412

no blue box for business

pick-up service should be available for small businesses

social attitude change is required

INCREASE TRAINING AND EDUCATION

reg 309 limits acceptable – more product options

SIC CODE : 8731

need drop-off facilities for sqhw generators

40b. Concerns, question or recommendations ?

SIC CODE : 0742

simplify system – K.I.S.S.

The sooner things are cleaned up the better.

SIC CODE : 0782

what happens to material picked up by Trizac

SIC CODE : 1611

more options

SIC CODE : 1623

people are aware of HHW

packaging of products, lack of information

SIC CODE : 1711

licensed contractors – no double standards

manuf. should develop more reusable products at reasonable \$

SIC CODE : 1721

people need to be more aware of their actions

SIC CODE : 1743

need education – simplified disposal, need alternatives

SIC CODE : 1794

political problems—gov't to force manuf.& consumer—life of prod.

SIC CODE : 2434

information, education, car is biggest polluter
More information, tell businesses what can be done with waste.
needs to be cost effective

SIC CODE : 2542

stop hysteria, gov't should exercise better judgement in regulns

SIC CODE : 2752

need information – would like drop-off
should be easier

SIC CODE : 2759

recovery units have to be used
water based inks, would like convenient depot

SIC CODE : 3443

need more info from government, reduce cost, reduce regulation

SIC CODE : 3911

financial benefit caused environmental benefit

SIC CODE : 4231

oil filters – is garbage the right place?

SIC CODE : 5032

where does the waste go?

SIC CODE : 5231

increase in options – at present there aren't any
education

SIC CODE : 5251

return products to manufacturer

SIC CODE : 5311

difficulty getting rid of materials, methods
would like to see mall get involved

SIC CODE : 5521

Should use incineration, capture energy value, size reduction.

SIC CODE : 5531

government inefficiency, initial business profiteering

SIC CODE : 5551

in Europe, 2 stroke engines not allowed on lake only sea

SIC CODE : 5571

tires

SIC CODE : 5946

hopefully entire industry will get onto system (like sys. Crystal

SIC CODE : 7221

what are the big guys doing?

SIC CODE : 7251

could burn material, recycle the metals
pick-up service should be user-pay

SIC CODE : 7311

do not know techniques
must be enforced – universal

SIC CODE : 7342

some products have disposal/treatment techniques on the labels
government and manuf. should develop system of reusing containers
could get integrated pest control, less is better in spraying

SIC CODE : 7353

need disposal facility conveniently located
Everyone should be aware of the problem, those who aren't are !!!

SIC CODE : 7384

regulation across board

SIC CODE : 7514

where is material going, costs should be front end loaded
should be specific and informed

SIC CODE : 7532

Better recycling facilities for plastic/rubber car parts.

Consult people doing the job – Painters!

SIC CODE : 7537

more information

must have incentive to save = dollar savings, hydro bad

should be R&D for alternatives

Keep up to the standards.

SIC CODE : 7538

one central source for information and enforcement

freon bottles, tires

residents own oil changes, scrap metal, tires

not concerned, other shops may have concern

information, more policing

SIC CODE : 7631

more information

technology exists to reduce waste, should make use of it

SIC CODE : 7699

educate and enforce!!

SIC CODE : 7922

simplify – accessible to small business

SIC CODE : 7992

Biodegradable packaging should be used, less banning more policing

SIC CODE : 8011

recommend pharmacies to have expired medication depots

convenience, education needed – government role small

SIC CODE : 8021

would like to join up with other local dental offices for 3R's

not wise for government to do everything/ CITY GAVE SINGLE SOURCE

SIC CODE : 8071

tied down by process – testing for cancer

SIC CODE : 8221

concerned that people not familiar will set arbitrary stds.

SIC CODE : 8249

more information

SIC CODE : 8412

bureaucratic inefficiencies should be avoided

41. Comments on survey ?

SIC CODE : 0742

considered gov't survey with suspicions

Good idea! Brought the issue to my attention.

SIC CODE : 0782

good idea

SIC CODE : 1611

interesting

SIC CODE : 1623

too bad it could not be done more

might enlighten people

SIC CODE : 1721

good

SIC CODE : 1743

should have been done 15 years ago

great idea

SIC CODE : 2434

hope it works out – somebody has to start doing something

SIC CODE : 2752

good that someone takes interest

SIC CODE : 2759

excellent

Stage 2b – Summary Report – Answers and Comments to Questions

informative, could make a difference
wish we could get something quick
SIC CODE : 3443
good way of getting info from small businesses
SIC CODE : 4231
very positive
SIC CODE : 5032
will get a better idea of what is going on
SIC CODE : 5231
great idea – awareness
SIC CODE : 5251
questions too general to cover all businesses
SIC CODE : 5311
good, educational
good, excellent
SIC CODE : 5511
Glad someone is doing something about it!
SIC CODE : 5531
act today not in 20 years
good idea
SIC CODE : 5541
good, about time answers are being looked for
good to get businesses opinio
SIC CODE : 5551
agrees with it, would like something to be done
SIC CODE : 5561
hope it does some good
SIC CODE : 5571
it's about time
SIC CODE : 5941
good, informative, important in identifying problems/solutions
SIC CODE : 5946
may/will be beneficial
SIC CODE : 7216
good start – looking at these problems
SIC CODE : 7217
good
SIC CODE : 7231
if it helps we are for it
good idea
SIC CODE : 7251
what will happen?
SIC CODE : 7261
Interesting
SIC CODE : 7311
thank your for the eye-opener, good
appears to be grass-roots – building ammunition for change
too much study, not enough action
SIC CODE : 7334
good survey, need to make people aware
SIC CODE : 7336
excellent idea, good to get info on what's happening
SIC CODE : 7342
due to guidelines no disposal of hazardous waste – treated
good
good idea – enlighten management – very informative
SIC CODE : 7353
good, government has waited too long
Good idea, pleased it is being carried out.

SIC CODE : 7384

represents a serious effort to do more to clean up environment
good idea

SIC CODE : 7514

good, could word some questions better – open questions

SIC CODE : 7532

About time! Need for small businesses! Account for disposal costs
Associations should train members to train their own members.

SIC CODE : 7537

necessary – makes people aware

good survey – needed

useful worthwhile

Good idea! Worthwhile to clean up the environment. Educate kids.

SIC CODE : 7538

very good

good, hope it is successful

hopes it brings about change

good idea

great, full support, good government is checking

good idea

SIC CODE : 7631

a waste of money – registered letter

good survey

SIC CODE : 7699

Refreshing to see something done about the env. – good questions

SIC CODE : 7922

good

SIC CODE : 7992

Would like to see what will come of this

SIC CODE : 8011

hopes something positive will come from survey

too long

concern over business revenue question

SIC CODE : 8021

educational – get contacts

SIC CODE : 8071

good idea

SIC CODE : 8211

Interesting

SIC CODE : 8221

good

SIC CODE : 8249

great idea

very good, educational

SIC CODE : 8412

hard to relate with so little waste

good idea

Good idea, info is spread from business to business

HAPPY TO SEE IT HAPPEN

survey does not account for possible air pollution

waste of money – shouldn't be surveyed, quantites too small

Appendix A - 5 - Tradename Report - Qualification of Waste Groups

SQHWG210

Small Quantity Hazardous Waste Generators Survey
Trade Name Report (Summarized by Waste Group)

GROUP : A - Acids

0.25% HCL
BORACIC ACID
DRY ACID
HAIR PERM - NEUTRALIZER SOLUTION
HAIR PERM-NEUTRALIZER SOLUTION
HYDROCHLORIC ACID
SPAREX NO.2 DRY ACID
SPAREX NO.2 DRY ACID CONTAINER
STRIP IT - H2SO4 & HF
VINEGAR

GROUP : B - Adhesives, Resins & Plastics

COLLOIDON
METHLY METHACRYLATE
METHYL METHACRYLATE
POWDER ACRYLIC
UNIVERSAL DENTURE LIQUID
WURTH CO. CARPENTER GLUE- DRIED

GROUP : C - Aerosols

CHRISTAL NEUTRALIZER SOLN

GROUP : D - Alkaline Solutions

ALKALINE PERM SOLUTION
BLEACH
BLEACH 1.0%
CAUSTIC SODA BATH (65LB TO 200 GAL.)
HAIR PERM SOLUTION
HAIR PERM SOLUTIONS
HAIR RELAXER
LIQUID BLEACH
REVLON NICE CHANGE -HAIR RELAXER
SODIUM HYDROXIDE
WELLITE BLEACH

GROUP : E - Anti-Freeze

ANTI-FREEZE

GROUP : F - Freon

FREON
R-22 FREON

GROUP : G - Detergents & Soaps

CITRISOL

GROUP : H - Dry Cleaning Solutions

DRY CLEANING FLUID
PERCHLOROETHYLENE
SLUDGE ON FILTER
SPOT REMOVERS
VARISOL-ODOURLESS CLEANSOL 3135

GROUP : I - Dry Cell Batteries

ALKALINE BATTERIES
DRY CELL BATTERIES
DRY CELL BATTERIES-DEFECTIVE
WATCH BATTERIES

GROUP : J - Fuels

ABSORBENT WITH GASOLINE
ACETYLENE
ACETYLENE GAS
CONTAMINATED ABSORBALL - GASOLINE
GASOLINE
LIGHTER FLUID
PROPANE

GROUP : K - Halogenated Spent Solvents

CLEANING SOLUTION - ULTRA-SONIC ?
ENGINE SHAMPOO "SOLVENT IMMULSION
CLEAN"
ENGINE SHAMPOO - RED STALLION
ETHANOL DISINFECTANT W CHLORHEXIDINE
METHYLENE CHLORIDE
WATERLESS CLEANING SOLUTION

GROUP : L - Lead-Acid Batteries

BATTERIES
BATTERIES - MOTORCYCLE
CAR BATTERIES
LEAD-ACID BATTERIES

GROUP : M - Miscellaneous Inorganic Waste

AMMONIA
HAIR COLOUR
HAIR TINTS
PEROXIDE
WATER TREATMENT CHEMICALS

GROUP : N - Miscellaneous Organic Waste

1-VP DEODERISER
BARBICIDE
CARPET PRE-SPRAY
COATING MARBLING AGENT
GERMICIDE - SAVLON
PENATHOL BIOTAL
PINE GUARD-PARA CHLOROPHENYL
QUAVO - ANTI-BACTERIAL CLEANING AGENT
SILVER POLISH
STAINS

**GROUP : O - Non-Halogenated Spent Solvents,
Varsol**

ACETONE
ALCOHOL
DAG-2A - (METHYL-ETHYL-KETONE)
EMBALMING FLUID
ETHANOL
ETHANOL CO-HEXADONAL
ETHER
FLOOR STRIPPER
FLOOR STRIPPER - ATTACK
HEXENE
LACQUER THINNER
METHYL HYDRATE
MINERAL SPIRITS
NAIL POLISH REMOVER
REMOVE IT - WAX SOLVENT
RINSING SOLUTION
SOLVENT
SOLVENTS

SOLVENTS, PAINT THINNER
SPENT NAIL POLISH REMOVER
TAR REMOVER
THINNER
THINNERS
TURPENTINE
VAR SOL
VAR SOL - EQUIPMENT
VAR SOL - EQUIPMENT WASH
VAR SOL RAGS
XYLENE

GROUP : P - Oil Wastes

ABSORBALL
BRAKE FLUID
DEXTRON OIL, #90 GEAR OIL, HYDRAULIC
FLD
DIRT/OIL SLUDGE - CAR WASH
DIRT/SLUDGE - FROM PARTS
ENGINE OIL
FLOOR ABSORBENT
GEAR OIL
HOIST OIL
HYDRAULIC OIL
MOTOR OIL
OIL AND GREASE
OIL FILTER
OIL FILTER - DRAINED
OIL FILTERS - DRAINED
OIL SOAKED RAGS
OILS, GREASE, TRANSMISSION FLUIDS
OILY PAPER TOWEL
OILY RAGS
TRANSMISSION FLUID
TRANSMISSION OIL
USED OILS
WASTE HEATING OIL
WASTE OIL
WASTE OILS

**GROUP : Q - Paints, Coatings & Wood
Perservatives**

ENAMEL
ENAMEL PAINT
FIXTURE SPRAY
LACQUER
LACQUER-DRIED
OIL PAINT

Stage 2b - Summary Report - Tradename Report

OIL PAINT - ARTISTS
PAINT BRUSHES
PAINT ROOM AIR FILTERS
PAINTS-UNSALEABLE
SPILT PAINT

GROUP : R - Pesticide Solutions

BETAZAN (CRABGRASS)
DURISBIN
HERBICIDE WEED CONTROL
INSECTICIDE
KLUNK
WEEDKILLER

GROUP : S - Photoprocessing Wastes

A AND B DEVELOPER
CHRISTAL DEVELOPER SYSTEM CLEANER
CHRISTAL-A DEVELOPER
CHRISTAL-A FIXER
DEVELOPER
DEVELOPER - FILM
DEVELOPER - PAPER
DEVELOPER - SLIDE PROCESSING
DEVELOPER BLEACH - FILM
DEVELOPER FILM
FILM
FILM BLEACH
FILM CLEANER
FILM RINSE
FIXER
FIXER - FILM
FIXER - PAPER
FIXER - SLIDE PROCESSING
FIXER AND DEVELOPER CLEANER
FIXER BLEACH - PAPER
FIXER FILM
FIXER SYSTEM CLEANER
LEAD LINING ON X-RAY FILM
NAP
PAPER BLEACH
PAPER DEVELOPER
PHOTOCHEMICALS
PHOTOCOPY TONER
PHOTOGRAPHIC LAQUER
PHOTOPROCESSING WASTE
SILVER
STABILIZER - FILM
STABILIZER - PAPER

STABILIZER PAPER - CONTAINER
X-RAY DEVELOPER
X-RAY FIXER
X-RAY FIXER AND DEVELOPER
X-RAY SOLUTIONS
X-RAY/ULTRASOUND FILM
X-RAYS
XRS DEVELOPER CLEANER

GROUP : T - Pharmaceuticals & Medical Wastes

ALCOHOL SWAB
ALLERGY TESTING NEEDLES
BIO-HAZARDOUS WASTE FROM MED.
LABORATORY
BIO-MEDICAL HAZARDOUS WASTES -
ANIMALS
BIOFLUID
BIOMEDICAL BOXED WASTE
BIOMEDICAL WASTE
BIOMEDICAL WASTES
CETYLCIDE
CIDEX
CIDEX PLASTIC CONTAINERS
CLEAN BIO-WASTE
DISINFECTANT
DISINFECTANT CONTAINERS
ELECTROLYSIS NEEDLE
EMERGENCY DRUGS
EXPIRED MEDICATION
GAUZE WITH BLOOD
GLOVES
METAL AMALGOM
MOUTH FLUSH INC. BLOOD
NEEDLES
NEEDLES AND BLADES
PATHEX
PATHOLOGICAL WASTE
PATHOLOGICAL WASTE (SAMPLES)
PLASTIC SYRINGES
SHARPS
SURGICAL FLUIDS
SYRINGES
VIROCINDIN-X

GROUP : U - Printing Solutions

ACTIVATOR AND STABILIZER
ACTIVATOR-PRINTING
DEVELOPER AND FIXER
DIAZO EMULSION
DIAZO EMULSION - CONTAINER
EMULSION
EMULSION - WATER SOL.
HAZE REMOVER
INK WASH
INKS
INKS - LIQUID
PLATE DEVELOPER
PMT LIQUID
PRINT RAGS
RAGS TO CLEAN SCREENS
RECLAIMER - DILUTE FROM POWDER
STABILIZER-PRINTING
WASH-UP
XRAY CHEMICALS: FIXER & DEVELOPER

GROUP : V - Acidic Solutions Containing Metals

PLATING SOLUTION

GROUP : X - PCB Contaminated Wastes

OLD BALLASTS

GROUP : Y - Oily Wash Down Water

FLOOR WASH
FLOOR WASH - KEN-CO IND.
PARTS WASH RINSE
SHURKLEEN, WUNRUB-13, FLOOR
DEGREASER
WASH DOWN WATER

GROUP : Z - Containers of Hazardous Materials

3ML OIL CONTAINER
ABS CEMENT CONTAINER
ACETONE CONTAINERS
ACETYLENE GAS CONTAINER
AEROSOL CAN
AEROSOL CANS

AEROSOL CONTAINER
AEROSOL CONTAINER - GLUE
AEROSOL CONTAINERS
AEROSOL DYE CONTAINER
AEROSOL GLUE CONTAINER
AEROSOL PROTECTORS
ALCOHOL CONTAINER
ALL METAL CONTAINERS
ANTI-FREEZE CONTAINER
ARMSTRONG LATEX TILE ADHESIVE
CONTAINER
BARBICIDE CONTAINER
BETAZAM DRUM
BLEACH - CONTAINER
BLEACH CONTAINER
BOX
BRAKE FLUID CONTAINER
CANNISTER
CANS/PAILS
CETYLCIDE PLASTIC CONTAINER
CETYLCIDE PLASTIC CONTAINERS
CHAIN SAW OIL CONTAINER
CHLORINE GAS TANKS
CHRISTAL DEVELOPER SYSTEM CLEANER
CONT.
CHRISTAL NEUTRALIZER SOLN CONTAINER
CHRISTAL-A DEVELOPER CONTAINER
CHRISTAL-A FIXER CONTAINER
COE SOFT CONTAINERS
COIL CONTAINER
COLLOIDON CONTAINERS
COMPRESSED GAS CONTAINER
CONTACT CEMENT CONTAINER
CONTACT CEMENT CONTAINERS
CONTAINERS
CONVERSION SOLUTION CONTAINER
CROME POLISH CONTAINER
DE-ICER CONTAINER
DEODERIZER CONTAINER
DEVELOPER CONTAINER
DEVELOPER FILM - CONTAINER
DRY CLEANING FLUID - CONTAINER
EMPTY CANS/PAILS
EMPTY CANS/PAILS/TUBES
EMPTY GLUE TUBES
EMPTY JUGS/CANS/BOTTLES
EMULSION CONTAINER
ETHANOL CONTAINER
FABRIC SEAL CONTAINER
FERTILIZER CONTAINER

Stage 2b - Summary Report - Tradename Report

FILM CLEANER CONTAINER
FIXER CONTAINER
FIXER CONTAINER - FILM
FIXER FILM - CONTAINER
FIXER PAPER - CONTAINER
FIXER SYSTEM CLEANER CONTAINER
FLOOR STRIPPER CONTAINER
FREON DRUM
GAS CANNISTER
GASKET REMOVER CONTAINERS
GEAR OIL CONTAINER
GEAR OIL CONTAINERS
GLUE CONTAINER
GLUE CONTAINERS
GREASE CONTAINER
HAIR COLOUR CONTAINER
HAIR MOUSE CONTAINER
HARDENING PASTE CONTAINERS
HAZE REMOVER CONTAINERS
HEXENE CONTAINER
HYDRAULIC FLUID CONTAINER
HYDRAULIC OIL CONTAINER
HYDROCHLORIC ACID/CAUSTIC SODA
CONTAINER
INK CONTAINERS
KLUNK CONTAINER
LACQUER CONTAINER
LATEX CONTACTS CONTAINER
LATEX TILE GLUE CONTAINERS
LATEX TILE GLUE PAILS
LIQUID ACRYLIC CONTAINER
LIQUID BLEACH CONTAINER
LUBRICATING AEROSOL
METAL CANS AND SPENT TUBES
METAL CANS/PLASTIC BOTTLES
METHYL HYDRATE CONTAINER
METHYL METHACRYLATE CONTAINER
METHYLENE CHLORIDE CONTAINER
NAIL DRYER CONTAINER
NAIL POLISH CONTAINER
NAIL POLISH REMOVER CONTAINER
NAP - CONTAINER
OIL CONTAINER
OIL CONTAINERS
OIL DRUM
PAINT CAN - DRIED
PAINT CANS
PAINT CANS - DRIED
PAINT CONTAINER
PAINT CONTAINER - ARTISTS

PAINT CONTAINERS
PAINT CONTAINERS - ARTISTS
PAINT HARDENER CONTAINER
PAINT REDUCER CONTAINER
PAINT THINNER CONTAINER
PAINT THINNERS
PAPER BLEACH FIXER CONTAINER
PATHEX CONTAINERS
PERM NEUTRALIZER CONTAINER
PERM SOLN CONTAINER
PERM SOLUTION CONTAINER
PEROXIDE CONTAINER
PESTICIDE AEROSOL CONTAINER
PESTICIDE CONTAINER
PESTICIDE CONTAINERS
PESTICIDE CONTAINERS - WASHED
PESTICIDE CONTAINERS-WASHED
PESTICIDE PAPER CONTAINER (RES. CONC)
PESTICIDE PAPER CONTAINERS (RES. CONC)
PHOTOCHEMICAL CONTAINER
PHOTOCHEMICAL CONTAINERS
PHOTOCOPY TONER CONTAINER
PLASTIC BAGS PESTICIDE CONTAINER
POWER GLUE CONTAINERS
PRINCEP CONTAINER
PROPANE CONTAINER
QUAVO CONTAINER
RAGS
REVLON NICE CHANGE - CONTAINER
RUBBER CEMENT GLUE CONTAINER
SAMPLE CONTAINERS
SILVER POLISH CONTAINER
SOLVENT CONTAINER
SOLVENTS CONTAINERS
SPENT GREASE TUBES/WD-40 CANS
SPRAY ADHESIVE CONTAINER
SPRAY FIXATIVE CONTAINER
SPRAY GLITTER
SPRAY PAINT CONTAINER
SPRAY PAINT CONTAINERS
SPRAY UNDERCOATING CONTAINER
SPRAY VARNISH CONTAINER
STAIN CONTAINER
STALITE CONTAINERS
THINNER - CONTAINER
THINNER CONTAINER
TONER AND LIQUID CONTAINERS
VARSOL CONTAINER
VARSOL CONTAINERS
VIROCINDIN-X CONTAINERS

Stage 2b - Summary Report - Tradename Report

WELLITE BLEACH CONTAINER
WINDOW CLEANER CONTAINER
WINDSHIELD WASHER FLUID
WINDSHIELD WIPER FLUID CONTAINER
XRS DEVELOPER CLEANER CONTAINER
XYLOL (LIKE CLEAR NAIL POLISH)
XYLOL THINNER

Appendix A - 6 - Description of Waste Management Methods

SIC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
0742	S	X - RAY SOLUTIONS		USES MUNICIPAL FARM PICKUP
0742	T	BIOMEDICAL WASTE	Costs	NO COST INVOLVED - SERVICE FOR FARM CHEMICALS
0742	T	NEEDLES		PICKED - UP BY SPCA - INCINERATED
0742	T	BIOMEDICAL WASTE		SPCA
0742	T	PATHOLOGICAL WASTE		SPCA
0742	T	BIO - MEDICAL HAZARDOUS WASTES - ANIMALS	Costs	HUMANE SOCIETY COMES TWICE A DAY
				BFI BIO - MEDICAL HAZARDOUS WASTE DISPOSAL SERVICE.
				\$14 PER PICK - UP FOR A ONE GALLON JUG.
0742	T	BIOMEDICAL BOXED WASTE		P/U BY HSPCA
0742	T	NEEDLES		P/U BY HSPCA
0742	T	SHARPS		SHARPS IN GARBAGE, TREATED AS NECESSARY I.E. RABIES
0742	T	NEEDLES AND BLADES		HUMANE SOCIETY
0742	T	PLASTIC SYRINGES		AUTOClave AND REUSE
0742	T	CLEAN BIO - WASTE		IF BIO - WASTE IS CLEAN - PUT IN GARBAGE
0742	U	XRAY CHEMICALS: FIXER & DEVELOPER	Costs	NO RECOVERY OF SILVER. OLD XRAY MACHINE OBTAINED FOR FREE.
			Problems/Concerns	WILL BE PURCHASING A NEW, MODERN XRAY MACHINE ONCE OLD ONE IS NO LONGER WORKING.
0742	Z	GAS CANNISTER		P/U BY HSPCA
0782	O	TAR REMOVER		PICKED UP BY TRIZAC
0782	P	WASTE OIL		TAKES WASTE OIL TO CDN TIRE FOR RECYCLING
0782	R	DURISBIN		RESIDUE CLEANED FROM CONTAINER AND PUT BACK INTO TANK
0782	R	INSECTICIDE		PICKED UP BY TRIZAC
0782	R	WEEDKILLER		RESIDUE CLEANED FROM CONTAINER AND PUT BACK INTO TANK
0782	R	HERBICIDE WEED CONTROL		PICKED UP BY TRIZAC
0782	R	BETAZAN (CRABGRASS)		RESIDUE CLEANED FROM CONTAINER AND PUT BACK INTO TANK FOR REUSE
0782	R	HERBICIDE WEED CONTROL		APPLY ON FIELD AND LET SOAK INTO GROUND
0782	Z	BETAZAM DRUM		TRIPLE RINSED AND THROWN IN GARBAGE
0782	Z	HYDRAULIC OIL CONTAINER		REFILLS CONTAINER AT AN OIL COMPANY (CRESCAN OIL ?)
0782	Z	FERTILIZER CONTAINER		PLASTIC BAGS PICKED UP BY TRIZAC
0782	Z	CONTAINERS		TRIPLE RINSE AND THROWN IN GARBAGE. PESTICIDE REGULATIONS PROHIBIT REUSE OF CONTAINERS
1611	L	BATTERIES		WENTWORTH METAL - SCRAP DEALER
1611	P	WASTE OILS		SAFETY KLEEN - REGISTERED WITH MOE
1623	L	BATTERIES		PHILLIPS OR LAIDLAW
1623	P	WASTE OIL		PHILLIPS OR LAIDLAW
1711	F	R-22 FREON		SOME FREON ESCAPES TO ATMOSPHERE, MOST IS CAUGHT IN CANNISTER
1711	F	FREON		FREON RECYCLER
1711	O	VAR SOL		EVAPORATES
1711	P	WASTE HEATING OIL		REUSE FOR HEAT AFTER CONVERSIONS
1711	P	WASTE HEATING OIL		GIVES OIL TO FAMILY AND FRIENDS FOR THEIR USE
1711	Z	COIL CONTAINER		PUTS CONTAINER IN BLUE BOX
1711	Z	CANNISTER		TAKES CANNISTER BACK TO WHOLESALER FOR REFILL
1721	O	TURPENTINE		REUSES TURPENTINE TO CLEAN BRUSHES AND HANDS
1721	Q	OIL PAINT		REUSE PAINT WHEREVER POSSIBLE OR LEAVES PAINT WITH CUSTOMERS
1721	Z	PAINT CANS		TAKE TO HHW FACILITY

SIC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
1743	Z	LATEX TILE GLUE CONTAINERS		USES CONTAINERS AFTERWARDS SWITCHED TO LATEX 2 YEARS AGO -- SOLVENT TOO STRONG
1743	Z	HARDENING PASTE CONTAINERS	Costs	BLUE BOXED
1743	Z	EMPTY GLUE TUBES		TAKES WASTE TO SWAROO INCINERATOR -- PREFERS TO LANDFILL
1743	Z	ARMSTRONG LATEX TILE ADHESIVE CONTAINER		TAKES TO TRANSFER STN.
1743	Z	GLUE CONTAINER		GALLON CONTAINERS REUSED FOR MIXING CEMENT
1794	L	BATTERIES		TO ACME BATTERY
1794	P	WASTE OIL		NOT SURE WHO PICKS IT UP
1794	P	WASTE OIL		DEPOSITS WITH REGION -- HAS CONTRACT WITH REGION
1794	Z	OIL DRUM		REUSES OIL DRUMS
2434	O	THINNER		
2752	O	VAR SOL	Problems/Concerns	DOES NOT KNOW WHAT TO DO WITH THINNER -- STORING IT
2752	S	A AND B DEVELOPER		WORKWEAR PICKS UP WET RAGS
2752	U	PRINT RAGS		STORING ON SITE -- NO DISPOSAL OPTIONS AVAILABLE
2752	U	INK WASH		WORKWEAR
2752	U	ACTIVATOR AND STABILIZER		MARANTHA
2752	U	DEVELOPER AND FIXER		MARANTHA
2759	H	DRY CLEANING FLUID		MARANTHA
2759	O	THINNER		EVAPORATES
2759	O	VAR SOL		EVAPORATES
2759	O	THINNERS		EVAPORATES
2759	U	PRINT RAGS		EVAPORATES
2759	U	INKS -- LIQUID		WORKWEAR PICKUP AND WASH
2759	U	RECLAIMER -- DILUTE FROM POWDER		INK IS REUSED CONTINUOUSLY
2759	U	RAGS TO CLEAN SCREENS		EVAPORATES
2759	U	WASH-UP		REUSE UNTIL SATURATED
2759	Z	CONTAINERS		EVAPORATES
2759	Z	AEROSOL CONTAINER -- GLUE		STORING AND USING SOME
2759	Z	EMULSION CONTAINER		LAIDLAW BIN
2759	Z	VAR SOL CONTAINER	Costs	LAIDLAW BIN
2759	Z	INK CONTAINERS		REUSE SOME CONTAINERS
2759	Z	HAZE REMOVER CONTAINERS		CONTAINER HAS TOP CUT OFF AND REUSED FOR STORING OTHER MATERIALS
2759	Z	SOLVENTS CONTAINERS		LAIDLAW BIN
3253	Z	LATEX TILE GLUE PAILS		LAIDLAW BIN
3443	J	ACETYLENE GAS		CONTRACTORS USE PAILS -- WATER BASE DUE TO U.S. REGULATIONS
3443	P	WASTE OIL		DISAPATES TO ATMOSPHERE
3541	P	OIL AND GREASE		TAKES WASTE OIL TO PLACE WHERE IT IS PICKED UP
3541	Z	OIL CONTAINERS		WHEN TANK IF FULL, WILL REGISTER
3843	B	METHYL METHACRYLATE		REUSES 45 GALLON DRUMS
3911	A	DRY ACID		DRAIN RECEPTOR FOR PICKING UP SOLIDS
3911	M	AMMONIA	Costs	SINKER/FLOATER TANK
3911	O	METHYL HYDRATE	Costs	RE -- REFINER WOULD PAY FOR METALS
				SINKER/FLOATER TANK
				RE -- REFINER WOULD RECOVER METALS(GOLD)
				EVAPORATED

SIC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
3911	O	THINNERS	Costs	SINKER/FLOATER TANK
4212	J	GASOLINE		RE - REFINER WOULD RECOVER METALS
4212	L	BATTERIES		IN CUSTOMERS TANK - WITH OIL
4212	P	WASTE OIL		SCRAP METAL DEALER
4231	L	BATTERIES		PUT IN CUSTOMERS TANK - WITHOUT THEIR KNOWLEDGE
4231	O	VAR SOL		POWER BATTERY - RETURNED TO POINT OF PURCHASE
4231	P	WASTE OIL		SAFETY KLEEN
4432	E	ANTI - FREEZE		SAFETY KLEEN
4432	L	BATTERIES		HYDRODYNAMICS
4432	O	VAR SOL		POWER BATTERY
4432	P	WASTE OILS		HYDRODYNAMICS
4432	Z	PAINT CONTAINERS		HYDRODYNAMICS - DUNVILLE LTD.
5032	A	HYDROCHLORIC ACID		WENTWORTH METAL RECYCLING
5032	E	ANTI - FREEZE		USED TO WASH VEHICLES - MIXES WITH CEMENT (ALKALINE)
5032	L	BATTERIES		PHILIP ENVIRONMENTAL
5032	O	VAR SOL - EQUIPMENT		SUPPLIER EXCHANGES OLD WITH NEW
5032	O	VAR SOL		PUT WITH OIL FOR PHILIPS
5032	P	WASTE OIL		SAFETY KLEEN
5093	L	CAR BATTERIES		PHILIP ENVIRONMENTAL - MOE LICENCED
5211	Z	LATEX TILE GLUE CONTAINERS	Problems/Concerns	STORES BATTERIES ON FLOOR, THEN TAKES TO WENTWORTH SCRAP DEALER
5231	Q	SPLT PAINT		USED FOR OTHER JOBS - ALWAYS IN DEMAND BY CONTRACTORS
5231	Z	PAINT CANS		PUTS INTO BAGS AND BOXES INTO DUMPSTER (HIDES)
5231	Z	PAINT CONTAINER		CANS ARE PUT INTO THE DUMPSTER FROM OTHER PEOPLE
5261	Z	PESTICIDE PAPER CONTAINERS (RES. CONC)		DRIES OUT PAINT IN CONTAINERS PRIOR TO DISPOSAL
5261	Z	PESTICIDE PAPER CONTAINER (RES. CONC)		PAPER PESTICIDE CONTAINERS DO NOT HAVE DISPOSAL INSTRUCTIONS
5311	O	FLOOR STRIPPER - ATTACK		PESTICIDE PAPER CONTAINER NOT CONSIDERED A HAZARDOUS WASTE
5311	O	VAR SOL RAGS		SOME EVAPORATES - REST WASHED DOWN THE DRAIN
5311	P	WASTE OIL		TO DUVALL BROTHERS
5311	Z	FREON DRUM		TO MAIN SERVICE CENTRE
5311	Z	CONTACT CEMENT CONTAINERS		DUVALL BROS. - BINBROOK 692 - 3333 - KEN DUVALL
5311	Z	PAINT CONTAINERS		DUVALL BROS.
5311	Z	AEROSOL CONTAINERS		DUVALL BROS.
5511	E	ANTI - FREEZE		DUVALL BROS.
5511	O	VAR SOL		STORED IN UNDERGROUND TANK WITH USED OIL. ANTI - FREEZE SITS ON TOP OF OIL. RECYCLED BY SAFETY KLEEN EVERY 2 YEARS - 500 GAL.
5511	P	OIL SOAKED RAGS		USE SAFETY KLEEN VAR SOL RECYCLING UNIT. DO NOT KNOW HOW MUCH BUT IT IS SERVICED ON A REGULAR BASIS.
5511	P	USED OILS		RAGS PICKED UP WEEKLY BY CANADIAN LINEN, WASHED AND RETURNED.
5531	L	LEAD - ACID BATTERIES		IN - GROUND HOLDING TANK, \$210/500 GALLONS, EMPTIED EVERY 2 YEARS BY SAFETY KLEEN
5531	Z	ALL METAL CONTAINERS		TAKE TO SERVICE STATION, WHO TAKES THEM TO WAXMAN FOR RECYCLING
				CUT CANS OPEN USE EVERYTHING, METAL INTO SCRAP PILE

SIC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
5541	J	ABSORBENT WITH GASOLINE	Problems/Concerns	GIVEN TO SLUDGE PUMPER – OTHERS W/O WASH PUT INTO DUMPSTER HEAD OFFICE INFO. SAYS PUT INTO DUMPSTER – 5KG AT A TIME? PHILLIPS ENV.
5541	P	DIRT/OIL SLUDGE – CAR WASH		TO OIL SEPARATOR (AT CAR – WASH)
5541	P	HYDRAULIC OIL		GIVES OIL BACK TO CUSTOMERS
5551	P	GEAR OIL		PICKED UP BY INTERSTATE BATTERY
5561	L	BATTERIES		WOULD USE SAFETY KLEEN
5571	E	ANTI – FREEZE		PUTS ANTI – FREEZE IN WITH VARSOL
5571	E	ANTI – FREEZE		SAM'S SCRAP
5571	L	BATTERIES		SAM'S USED BATTERIES
5571	L	BATTERIES		SCRAP METAL DEALER
5571	L	BATTERIES – MOTORCYCLE		SAFETY KLEEN
5571	O	VARVOL		SAFETY KLEEN
5571	O	VARVOL		SAFETY KLEEN
5571	O	VARVOL	Costs	COSTS
5571	P	WASTE OIL	Problems/Concerns	SAFETY KLEEN
5571	P	WASTE OIL		COSTS
5571	P	WASTE OIL		D.A. LEE DUST CONTROL – FRUITLAND
5599	O	VARVOL		MIXED WITH VARSOL – TO SAFETY KLEEN
5946	I	DRY CELL BATTERIES		SAFETY KLEEN
5946	S	PAPER BLEACH		DOFASCO P/U BATTERIES
5946	S	FIXER FILM		CHAMPION
5946	S	PHOTOPROCESSING WASTE		CHAMPION
5946	S	STABILIZER – FILM		USES CHAMPION PHOTOCHEMISTRY
5946	S	DEVELOPER FILM		FOLLOWS STANDARDS SET OUT BY PMA
5946	S	FIXER – FILM		CHAMPION
5946	S	STABILIZER – PAPER		FOLLOWS STANDARDS SET OUT BY PMA
5946	S	SILVER		FOLLOWS STANDARDS SET OUT BY PMA
5946	S	FILM BLEACH		P/U BY MARINATHA
5946	S	PAPER DEVELOPER		CHAMPION
5946	S	FILM CLEANER		CHAMPION
5946	S	FILM RINSE		EVAPORATES
5946	S	DEVELOPER – SLIDE PROCESSING		CHAMPION
5946	S	DEVELOPER – FILM		FOLLOWS STANDARDS SET OUT BY PMA
5946	S	FIXER – SLIDE PROCESSING		FOLLOWS STANDARDS SET OUT BY PMA
5946	S	DEVELOPER – PAPER		FOLLOWS STANDARDS SET OUT BY PMA
5949	N	COATING MARBLING AGENT	Problems/Concerns	NOTE: FOLLOWS STANDARDS SET OUT BY PMA STORING CONTAINER FROM 2 YEARS AGO DOES NOT KNOW WHAT TO DO
7216	H	VARVOL – ODOURLESS CLEANSOL 3135	Costs	REUSED BUT IT EVAPORATES MORE EXPENSIVE, USED TO USE PERT. TOO HARSH, CARCINOGEN, ODOUR
7216	H	PERCHLOROETHYLENE	Problems/Concerns	VARVOL MORE EXPENSIVE THAN PERT. CLEANS LESS
7216	H	SPOT REMOVERS		EVAPORATES
7216	H	SLUDGE ON FILTER		USED IN WASHING
7217	Z	SOLVENTS CONTAINERS		PUTS FILTER OUTSIDE TO EVAPORATE SOLVENT, THEN SLUDGE IN GARBAGE TAKE CONTAINERS BACK TO SUPPLIER TO BE REFILLED.

SIC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
7221	S	PHOTOGRAPHIC LAQUER		LACQUER SPRAY DISPENSES TO ATMOSPHERE
7251	Z	POWER GLUE CONTAINERS		INTO MALL DISPOSAL BINS
7251	Z	GLUE CONTAINERS		USES GALLON CONTAINER INSTEAD OF SMALLER EVAPORATES
7261	R	KLUNK		P/U BY LAIDLAW ENVIRONMENTAL
7261	T	BIOMEDICAL BOXED WASTE		ALCOHOL EVAPORATES
7291	T	ALCOHOL SWAB		SPRAY DISPENSES INTO ATMOSPHERE
7311	O	ACETONE		RAGS ARE SENT OFF - SITE FOR CLEANING
7334	Z	RAGS		PICKED UP BY ENVIRONMENTAL CONTROL SYSTEM
7336	S	SILVER		WATER SOLUABLE DEVELOPER
7336	S	NAP		CAN IS RINSED, CUT - UP AND THROWN IN GARBAGE
7336	Z	FIXER FILM - CONTAINER		HOTZ
7342	Z	PESTICIDE CONTAINERS - WASHED		NO PROBLEMS - TRANSPORTING THEIR OWN WASTE
7342	Z	PLASTIC BAGS PESTICIDE CONTAINER		BAGS WASHED, PUNCTURED TO LANDFILL, HARD CONTAINERS USED
7342	Z	PESTICIDE CONTAINERS - WASHED		TRIPLE RINSE, PUNCTURE/CUT UP, THROW IN GARBAGE
7342	Z	PESTICIDE CONTAINERS		KEM - SAN (OAKVILLE) JOHN SHULTZ
7353	L	BATTERIES		MANUFACTURER PICKS UP WASTE BATTERIES
7353	P	ENGINE OIL		SELF - HAUL TO WAXMAN
7353	P	DEXTRON OIL, #90 GEAR OIL, HYDRAULIC FLD		OILS PICKED UP AND RECYCLED
7353	P	OILY RAGS		WASH RAGS IN WASHING MACHINE
7353	P	ABSORBALL		REUSES ABSORBALL AS MUCH AS POSSIBLE
7384	S	FIXER BLEACH - PAPER		MARANATHA - INDEPENDENT COMPANY PICKS UP MATERIAL
7384	S	DEVELOPER		SILVER RECOVERY UNIT IN PLACE
7384	S	FIXER		SILVER RECOVERY UNIT IN USE
7384	S	SILVER		SILVER RECOVERED AND STORED IN PLASTIC BAG
7384	S	DEVELOPER - PAPER		REUSE PAPER DEVELOPER - NATURE CARE
7384	Z	DEVELOPER CONTAINER		
7384	Z	FIXER CONTAINER		DOES NOT KNOW HOW/WHERE TO DISPOSE OF CONTAINER
7514	P	OILY PAPER TOWEL		DOES NOT KNOW HOW/WHERE TO DISPOSE OF CONTAINERS
7514	Z	OIL CONTAINERS		USED FOR CHECKING OIL IN CARS - PUT IN GARBAGE
7514	Z	WINDSHIELD WASHER FLUID		45 GAL DRUMS ARE RETURNED TO CRESSENT OIL
7532	E	ANTI-FREEZE		CONTAINERS GO BACK TO SUPPLIER
7532	F	FREON		FILL 45 GAL. DRUM IN ABOUT 4 YEARS. SAFETY KLEEN WILL PICK-UP FOR RECYCLING.
7532	O	SOLVENTS, PAINT THINNER		FREON RECOVERY AND RECYCLING SYSTEM. NO DISPOSAL SINCE IT IS RECYCLED. HAVE HAD UNIT FOR 3 YEARS.
7532	O	SOLVENTS		SOLVENT RECYCLER ON-SITE, SOLVENTS ARE REUSED TO CLEAN SPRAY GUNS
7532	P	MOTOR OIL		AND OVERSPRAY ON TIRES, ETC. EXCESS POURED INTO SLOP PAIL WHICH IS RECYCLED BY SAFETY KLEEN
7532	Q	PAINT ROOM AIR FILTERS		RECYCLED BY ONTARIO SOLVENT.
7532	Y	SHURKLEEN, WUNRUB-13, FLOOR DEGREASER		SAFETY KLEEN PICKS UP OIL AND RECYCLES IT
7532	Z	EMPTY CANS/PAIS		CURRENTLY NO DISPOSAL FOR USED PAINT ROOM AIR FILTERS. MIXED WITH WATER AND WASHED DOWN THE DRAIN
			Costs	CRUSH CANS/PAIS FOR SCRAP METAL RECYCLER. 12-15 PICKUPS/YEAR
				\$110/LIFT, \$50/MONTH RENTAL

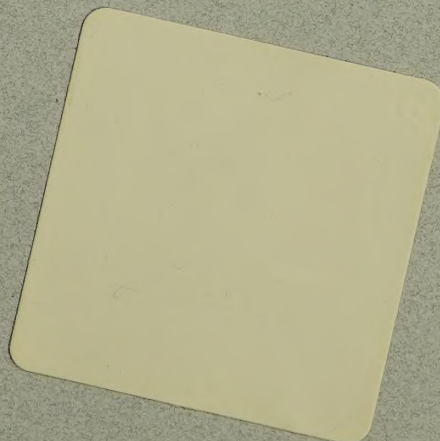
SIC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
7532	Z	CANS/PAILS		METAL CANS AND PAILS ARE CRUSHED AND RECYCLED BY SCRAP DEALER
7532	Z	PAINT CONTAINER	Costs	BUY PAINT CANS IN VARIOUS SIZES, AS NEEDED.
7534	L	BATTERIES		CONTAINERS ARE PICKED UP BY SUPPLIER
7534	O	VARVOL		POSNER METALS PICKS UP AND PAYS \$1.75/BATTERY
7534	P	OIL FILTER		SAFETY KLEEN
7534	P	WASTE OIL		SELF HAUL TO SCRAP YARD
7537	E	ANTI-FREEZE		PHILLIPS ENV.
7537	G	CITRISOL		SAFETY KLEEN
7537	L	BATTERIES		CITRISOL USED FOR PARTS CLEANING
7537	O	SOLVENT		TO SANFORD BATTERY
7537	O	SOLVENT		SAFETY KLEEN FILTERED SYSTEM, SELF-CONTAINED
7537	O	VARVOL		DALEE - STONEY CREEK
7537	O	VARVOL	Problems/Concerns	SAFETY KLEEN
7537	P	TRANSMISSION OIL		EXPENSIVE
7537	P	TRANSMISSION OIL		DALEE - STONEY CREEK
7537	P	OILS, GREASE, TRANSMISSION FLUIDS		FAW
7537	P	WASTE OIL		FAW OIL LTD. FROM CALEDONIA PICKS UP AND RECYCLES FLUIDS
7537	P	WASTE OIL		DALEE - STONEY CREEK
7537	P	FLOOR ABSORBENT		PHILLIPS ENV.
7537	P	TRANSMISSION FLUID		NOT CONNECTED TO SEWER - CLEAN, DRIVE TO PHILLIPS
7537	P	DIRT/SLUDGE - FROM PARTS		SAFETY - KLEEN
7537	P	OILY RAGS	Costs	PARTS "WASHING MACHINE" - SOAP & WATER - SLUDGE TAKE TO PHILLIPS
7537	P	OILY RAGS		CANADIAN LINEN SERVICE PICKS UP RAGS EVERY WEEK WASHES THEM AND RETURNS THEM.
7537	Y	PARTS WASH RINSE		OIL/WATER SEPARATOR - PUMPED OUT BY FAW
7538	D	CAUSTIC SODA BATH (65LB TO 200 GAL.)		PHILLIPS EVERY TWO YEARS
7538	E	ANTI-FREEZE		SAFETY KLEEN - REUSE WHEN POSSIBLE
7538	E	ANTI-FREEZE		SAFETY KLEEN
7538	E	ANTI-FREEZE		SAFETY KLEEN
7538	E	ANTI-FREEZE		ANTI-FREEZE RECYCLER ON-SITE
7538	E	ANTI-FREEZE		SAFETY KLEEN
7538	E	ANTI-FREEZE		ANTI-FREEZE STORED IN 5L PLASTIC PAILS, THEN GIVEN TO CUSTOMERS
7538	E	ANTI-FREEZE		PUT IN OTHER VEHICLES
7538	E	ANTI-FREEZE		PUT BACK INTO CAR IF TAKEN OUT
7538	F	FREON		FREON RECYCLER ON-SITE
7538	F	FREON		FREON RECYCLER
7538	J	ACETYLENE		GAS IS DISPERSED TO ATMOSPHERE
7538	K	ENGINE SHAMPOO "SOLVENT IMMULSION CLEAN"		THROUGH OIL/WATER SEPARATOR
7538	L	BATTERIES		TO WRECKER
7538	L	BATTERIES		TO SCRAP METAL DEALER
7538	L	BATTERIES		TO SCRAP METAL DEALER
7538	L	LEAD-ACID BATTERIES		P/U BATTERIES BY LICENSED HAULER
7538	L	BATTERIES		TO SCRAP DEALER
7538	L	BATTERIES		INTERSTATE BATTERIES
7538	L	BATTERIES		TO SUPPLIER
7538	L	BATTERIES		TO SCRAP METAL DEALER

SIC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
7538	O	VAR SOL – EQUIPMENT WASH		SAFETY – KLEEN
7538	O	VAR SOL		INTO OIL CONTAINER
7538	O	VAR SOL		SAFETY KLEEN
7538	O	SOLVENT		SAFETY KLEEN
7538	O	VAR SOL		SAFETY KLEEN
7538	O	VAR SOL		FAW – MIXED INTO OIL CONTAINER
7538	O	VAR SOL		SAFETY KLEEN
7538	O	VAR SOL		SAFETY KLEEN
7538	O	VAR SOL		MIXED WITH OIL TO FAW
7538	O	VAR SOL		FAW
7538	P	WASTE OIL		GARBAGE PICKED UP BY LAIDLAW
7538	P	OIL FILTER		FAW
7538	P	WASTE OIL		SAFETY KLEEN
7538	P	WASTE OIL		RAGS P/U BY WORKWEAR, CLEANED AND RETURNED TO SHOP
7538	P	OILY RAGS		SAFETY KLEEN
7538	P	WASTE OIL		PHILLIPS
7538	P	WASTE OIL		GEAR OIL REUSED AS LONG AS POSSIBLE
7538	P	GEAR OIL		FAW
7538	P	WASTE OIL		PHILLIPS OR SAFETY KLEEN
7538	P	WASTE OIL		FILTERS DRAINED, P/U BY SCRAP DEALER
7538	P	OIL FILTER		DRAINED IN BOTTLE, PUT IN WITH WASTE OIL
7538	P	BRAKE FLUID		PICKED UP BY SAFETY – KLEEN
7538	P	WASTE OIL		PHILLIPS FAW OIL
7538	P	WASTE OILS		SOMETIMES TAKEN BY SCRAP METAL DEALERS
7538	P	OIL FILTERS – DRAINED		OIL WATER SEPARATOR PUMPED OUT BY CANADIAN OIL (FAW)
7538	Y	WASH DOWN WATER		WMI
7538	Z	GASKET REMOVER CONTAINERS		INTO WMI BIN
7538	Z	PAINT CONTAINERS		EMPTY CYLINDERS SENT BACK FOR REFILL
7538	Z	COMPRESSED GAS CONTAINER		METAL CONTAINER P/U BY SCRAP DEALER
7538	Z	BRAKE FLUID CONTAINER		DRAIN OIL CONTAINERS, RINSE AND THROW IN GARBAGE
7538	Z	OIL CONTAINERS		STORES IN CARDBOARD BOX, PICKED UP BY EVEREADY BATTERY CO.
7631	I	DRY CELL BATTERIES		PICKED UP BY OUTSIDE COMPANY AS REQUIRED
7631	I	WATCH BATTERIES		PROPANE DISPENSES IN AIR
7631	J	PROPANE		PUTS CONTAINERS IN THE GARBAGE
7631	K	CLEANING SOLUTION – ULTRA – SONIC		DUMPS SPENT SOLVENT IN BACKYARD
7631	K	WATERLESS CLEANING SOLUTION		DUMPS SOLUTION IN BACKYARD
7631	K	CLEANING SOLUTION – ULTRA – SONIC		EVAPORATES
7631	O	ETHER		DUMPS USED SOLVENT IN BACKYARD
7631	O	METHYL HYDRATE		DUMPS SPENT SOLVENT IN BACKYARD
7631	O	RINSING SOLUTION		DUMPS USED OIL IN BACKYARD
7631	P	GEAR OIL		REUSE SOLUTION UNTIL INEFFECTIVE
7631	V	PLATING SOLUTION		DON'T KNOW WHAT TO DO WITH INEFFECTIVE SOLUTION, CURRENTLY STORING
7631	Z	PROPANE CONTAINER		PICKED UP BY SUPPLIER AND REFILLED WITH PROPANE
7699	E	ANTI – FREEZE		ANTI – FREEZE RECYCLER
7699	F	FREON		FREON RECYCLER
7699	O	VAR SOL		SAFETY KLEEN

SiC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
7699	O	THINNERS		THINNERS SUPPLIED & PICKED UP BY SOLREC
7922	E	ANTI-FREEZE		HOTZ – HHW
7922	I	DRY CELL BATTERIES		HOTZ – HHW
7922	O	VAR SOL		HOTZ – HHW
7922	P	WASTE OIL		HOTZ – HHW
7922	Z	PAINT CANS		HOTZ – HHW
7922	Z	GLUE CONTAINER		HOTZ – HHW
7996	L	LEAD – ACID BATTERIES		SELF HAUL TO HEAD OFFICE WHERE IT IS P/U BY REGIST'D HAULER
7996	O	VAR SOL		SELF HAUL TO HEAD OFFICE WHERE IT IS PICKED UP BY REGISTERED HAULER
7996	P	WASTE OIL		SELF HAUL TO HEAD OFFICE WHERE IT IS PICKED UP BY REGISTERED HAULER
7996	Z	CHLORINE GAS TANKS		SUPPLIER PICKS UP AND REFILLS
7996	Z	PAINT CANS		SELF HAUL TO HOTZ AND SONS DEPOT
7996	Z	HYDROCHLORIC ACID/CAUSTIC SODA CONTAINER		PICKED UP BY SUPPLIER AND REFILLS
7996	Z	PRINCEP CONTAINER		SELF HAUL TO CHRISTIE (CHEMICAL STORAGE AREA), P/U BY HAULER
7996	Z	HYDRAULIC FLUID CONTAINER		SELF HAUL TO HEAD OFFICE, P/U BY REGIST'D HAULER
7996	Z	LIQUID BLEACH CONTAINER		SUPPLIER PICKS UP AND REFILLS
8011	B	COLLOIDON		SMALL AMOUNT USED ON WIPES – DISCARDED IN GARBAGE
8011	B	METHYL METHACRYLATE		EVAPORATES
8011	D	BLEACH		BLEACH USED ON WIPES – DISCARDED IN GARBAGE
8011	I	ALKALINE BATTERIES		4 BATTERIES EXPENDED EVERY 3 DAYS
8011	O	ACETONE		REUSABLE BATTERIES NOT COMPATIBLE WITH EQUIPMENT
8011	T	ALLERGY TESTING NEEDLES		SMALL AMOUNTS USED ON WIPES – DISCARDED IN GARBAGE
8011	T	EXPIRED MEDICATION		WASTE STORED IN ORIGINAL BUBBLE PACKS IN CARDBOARD BOX
8011	T	EXPIRED MEDICATION		750 NEEDLES/YEAR – SHOULD BE STORED IN BIOHAZARD CONTAINER
8011	T	EXPIRED MEDICATION		HOTZ LOTTIDGE HHW DEPOT
8011	T	EXPIRED MEDICATION		NO COST
8011	T	EXPIRED MEDICATION		PACKAGING, DOCTORS' OFFICES USED BY PATIENTS AS DEPOTS
8011	T	NEEDLES		WASTE STORAGE SECURITY REQUIRED
8021	S	LEAD LINING ON X-RAY FILM		1 LITRE BLEACH ADDED TO BIOHAZARD CONTAINER, FREE PICK-UP BY ?
8021	S	DEVELOPER		CANNOT FIND SERVICE TO PICK-UP THIS WASTE
8021	S	FIXER		SYSTEM CRYSTAL
8021	T	GAUZE WITH BLOOD		SYSTEM CRYSTAL
8021	T	BIOMEDICAL BOXED WASTE		GAUZE IS COLLECTED WITH SHARPS STORED INDEFINITELY
8021	T	SURGICAL FLUIDS		HAS 5 YEARS OF SEALED CONTAINERS
8021	T	BIOMEDICAL BOXED WASTE		PICKED UP THROUGH HEAD OFFICE
8021	T	SHARPS		BLEACH ADDED TO DISINFECT
8021	T	BIOMEDICAL BOXED WASTE		LADLAW MEDICAL WASTE SERVICES
8021	T	BIOMEDICAL BOXED WASTE		SHARPS STORED INDEFINITELY
8021	T	BIOMEDICAL BOXED WASTE		HOW TO DISPOSE OF SHARPS
8021	T	BIOMEDICAL BOXED WASTE		PICKED UP WEEKLY BY DECOM
8071	A	0.25% HCL		PROMPTED BY HAZARDS ASSOC. WITH DISPOSAL OF NEEDLES
8071	D	BLEACH 1.0%		REUSES FOR APPROX. ONE MONTH
8071	D	BLEACH 1.0%		DILUTED WITH WATER

SIC Code	Waste Group	Tradename or Waste Type	Notes	Hazardous Waste Management Description
8071	N	STAINS		CHEM SERVE
8071	O	DAG-2A - (METHYL-ETHYL-KETONE)		CHEM-SERVE - HAS A WASTE GENERATOR NUMBER AS OF NOV. 1990
8071	O	XYLENE		CHEM SERVE
8071	S	X-RAYS		TO FILM SUPPLIER FOR SILVER RECOVERY
8071	S	X-RAY/ULTRASOUND FILM		B&W SERVICES PICKS UP FILM AS REQUIRED.
8071	S	SILVER	Problems/Concerns	BY LAW THE FIRM MUST KEEP FILM ON-SITE FOR 3 YRS BEFORE DISPOSAL
8071	S	X-RAY DEVELOPER	Costs	SILVER PICKED UP BY WAXMAN, REFINED, AND INGOT IS SENT BACK
8071	T	PATHOLOGICAL WASTE (SAMPLES)		THIS IS \$ SAVING MEASURE AND WANT TO PROTECT ENVIRONMENT
8071	T	BIO-HAZARDOUS WASTE FROM MED. LABORATORY	Costs	SILVER RECOVER - CANISTER SYSTEM
8071	Z	SAMPLE CONTAINERS		TREATED WITH CLHO AND BLEACH THEN TO SEWER
8072	B	UNIVERSAL DENTURE LIQUID		BFI BIO-HAZARDOUS WASTE DISPOSAL PROGRAM. MOE REGULATED.
8072	T	CETYLCLIDE		MANIFESTS KEPT ON-SITE. INCINERATED IN TOLEDO, OHIO.
8072	T	PATHEX		WASH WITH BLEACH AND SOAPY WASTE - REUSED INDEFINITELY
8072	T	VIROCINDIN-X		LIQUID EVAPORATES
8072	Z	VIROCINDIN-X CONTAINERS		FEW OZ. USED WEEKLY
8072	Z	PATHEX CONTAINERS		USED ON WIPES - 0.1L USED WEEKLY
8072	Z	COE SOFT CONTAINERS		USED ON WIPES - 0.1L USED WEEKLY
8072	Z	STALITE CONTAINERS		750 ML CONTAINER LASTS 2 MONTHS
8072	Z	CETYLCLIDE PLASTIC CONTAINERS		4 X 950 ML CONTAINERS USED PER YEAR
8221	T	METAL AMALGOM		347 ML CONTAINERS EXPENDED EVERY 3 MONTHS
8221	T	BIOMEDICAL WASTES		3,785 ML CONTAINERS, 4 USED PER YEAR
8412	A	VINEGAR		946 ML CONTAINER
8412	J	LIGHTER FLUID		AMALGOM TO HEALTHCO
8412	O	TURPENTINE		AUTOCCLAVE, PLASTICS BLEACH, NEEDLES AUTOCCLAVED
8412	O	MINERAL SPIRITS		SUBSTITUTED VINEGAR FOR WINDOW CLEANER - CHEAPER, SAFER
8412	O	VARSOL		SELF HAUL TO LOTTRIDGE
8412	O	TURPENTINE		TO HOTZ HHW
8412	O	VARSOL		REUSES MINERAL SPIRITS
8412	O	ACETONE		EVAPORATES
8412	O	METHYL HYDRATE		REUSES TURPENTINE
8412	O	XYLENE		SELF HAUL TO LOTTRIDGE
8412	Q	FIXTURE SPRAY		EVAPORATES
8412	Q	ENAMEL PAINT	Costs	REUSES METHYL HYDRATE
8412	Q	ENAMEL		REUSES XYLENE
8731	K	METHYLENE CHLORIDE		DISPERSES INTO ATMOSPHERE
8731	O	HEXENE		REUSE PAINTS TO GET DIFFERENT COLOURS
8731	Z	HEXENE CONTAINER		COST IS MAJOR FACTOR
8731	Z	METHYLENE CHLORIDE CONTAINER		REUSES ENAMEL PAINT

**Appendix A - 7 - Description of Waste Management Method -
"ON SITE TREATMENT"**



SIC Code	Waste Group	Tradename or Waste Type	Notes	*On-Site Treatment* Hazardous Waste Management Description
1711	F	R-22 FREON		SOME FREON ESCAPES TO ATMOSPHERE, MOST IS CAUGHT IN CANNISTER
1711	O	VARSOL		EVAPORATES
1794	P	WASTE OIL		DEPOSITS WITH REGION -- HAS CONTRACT WITH REGION
2434	O	THINNER		
2434			Problems/Concerns	DOES NOT KNOW WHAT TO DO WITH THINNER -- STORING IT
2759	O	THINNER		EVAPORATES
2759	O	THINNERS		EVAPORATES
2759	U	WASH-UP		EVAPORATES
2759	U	RECLAIMER -- DILUTE FROM POWDER		EVAPORATES
2759	Z	CONTAINERS		STORING AND USING SOME
3541	P	OIL AND GREASE		WHEN TANK IF FULL, WILL REGISTER
3843	O	REMOVE IT -- WAX SOLVENT		EVAPORATES
5211	Z	LATEX TILE GLUE CONTAINERS		USED FOR OTHER JOBS -- ALWAYS IN DEMAND BY CONTRACTORS
5541	P	HYDRAULIC OIL		TO OIL SEPARATOR (AT CAR-WASH)
5561	O	THINNERS		EVAPORATES
5571	E	ANTI-FREEZE		PUTS ANTI-FREEZE IN WITH VARSOL
5949	N	COATING MARBLING AGENT		STORING CONTAINER FROM 2 YEARS AGO
5949	N		Problems/Concerns	DOES NOT KNOW WHAT TO DO
7216	H	PERCHLOROETHYLENE		EVAPORATES
7216	H	SPOT REMOVERS		USED IN WASHING
7216	H	VARSOL-ODOURLESS CLEANSOL 3135		REUSED BUT IT EVAPORATES
7216	H		Costs	MORE EXPENSIVE, USED TO USE PERT. TOO HARSH, CARCINOGEN, ODOUR
7216	H		Problems/Concerns	VARSOL MORE EXPENSIVE THAN PERT. CLEANS LESS
7231	O	NAIL POLISH REMOVER		EVAPORATES
7251	O	SOLVENT		EVAPORATES
7534	P	OIL FILTER		SELF HAUL TO SCRAP YARD
7538	Y	WASH DOWN WATER		OIL WATER SEPARATOR PUMPED OUT BY CANADIAN OIL (FAW)
7631	O	ETHER		EVAPORATES
8021	S	LEAD LINING ON X-RAY FILM		
8021	S		Problems/Concerns	CANNOT FIND SERVICE TO PICK-UP THIS WASTE
8021	T	SHARPS		SHARPS STORED INDEFINITELY
8021	T		Problems/Concerns	HOW TO DISPOSE OF SHARPS
8021	T	GAUZE WITH BLOOD		GAUZE IS COLLECTED WITH SHARPS STORED INDEFINITELY
8021	T		Problems/Concerns	HAS 5 YEARS OF SEALED CONTAINERS
8071	T	PATHOLOGICAL WASTE (SAMPLES)		TREATED WITH CLHO AND BLEACH THEN TO SEWER
8221	T	BIOMEDICAL WASTES		AUTOClave, PLASTICS BLEACH, NEEDLES AUTOCLAVED
8412	O	VARSOL		EVAPORATES
8412	O	ACETONE		EVAPORATES

Note: The classification of "On-site Treatment" was used to classify all waste management which occurred on-site, but was not otherwise defined

**Appendix A - 8 - Description of Waste Management Method -
"OTHER DUMPING"**

SIC Code	Waste Group	Tradename or Waste Type	Notes	*Other Dumping* Hazardous Waste Management Description
0742	S	X - RAY SOLUTIONS		USES MUNICIPAL FARM PICKUP
0782	R	HERBICIDE WEED CONTROL	Costs	NO COST INVOLVED - SERVICE FOR FARM CHEMICALS
1743	Z	HARDENING PASTE CONTAINERS		APPLY ON FIELD AND LET SOAK INTO GROUND
2752	S	A AND B DEVELOPER		BLUE BOXED
2759	H	DRY CLEANING FLUID		STORING ON SITE - NO DISPOSAL OPTIONS AVAILABLE
2759	O	VAR SOL		EVAPORATES
2759	U	PMT LIQUID		EVAPORATES
3443	J	ACETYLENE GAS		DISAPATES TO ATMOSPHERE
3911	O	METHYL HYDRATE		EVAPORATED
4212	J	GASOLINE		IN CUSTOMERS TANK - WITH OIL
4212	P	WASTE OIL		PUT IN CUSTOMERS TANK - WITHOUT THEIR KNOWLEDGE
5251	Q	PAINTS - UNSALEABLE		
5311	P	WASTE OIL		TO MAIN SERVICE CENTRE
5551	P	GEAR OIL		GIVES OIL BACK TO CUSTOMERS
5946	S	FILM CLEANER		EVAPORATES
7221	S	PHOTOGRAPHIC LAQUER		LACQUER SPRAY DISPERSES TO ATMOSPHERE
7261	R	KLUNK		EVAPORATES
7311	O	ACETONE		SPRAY DISPERSES INTO ATMOSPHERE
7334	Z	RAGS		RAGS ARE SENT OFF - SITE FOR CLEANING
7384	Z	FIXER CONTAINER		
7384	Z	DEVELOPER CONTAINER	Problems/Concern	DOES NOT KNOW HOW/WHERE TO DISPOSE OF CONTAINERS
7537	P	DIRT/SLUDGE - FROM PARTS	Problems/Concern	DOES NOT KNOW HOW/WHERE TO DISPOSE OF CONTAINER
7537	P	FLOOR ABSORBENT		PARTS "WASHING MACHINE" - SOAP & WATER - SLUDGE TAKE TO PHILLIPS
7538	J	ACETYLENE		NOT CONNECTED TO SEWER - CLEAN, DRIVE TO PHILLIPS
7631	J	PROPANE		GAS IS DISPERSED TO ATMOSPHERE
7631	K	CLEANING SOLUTION - ULTRA - SONIC		PROPANE DISPERSES IN AIR
7631	K	WATERLESS CLEANING SOLUTION		DUMPS SOLUTION IN BACKYARD
7631	O	RINSING SOLUTION		DUMPS SPENT SOLVENT IN BACKYARD
7631	O	METHYL HYDRATE		DUMPS USED SOLVENT IN BACKYARD
7631	P	GEAR OIL		DUMPS USED OIL IN BACKYARD
7996	L	LEAD - ACID BATTERIES		SELF HAUL TO HEAD OFFICE WHERE IT IS P/U BY REGIST'D HAULER
7996	O	VAR SOL		SELF HAUL TO HEAD OFFICE WHERE IT IS PICKED UP BY REGISTERED HAULER
7996	P	WASTE OIL		SELF HAUL TO HEAD OFFICE WHERE IT IS PICKED UP BY REGISTERED HAULER
7996	Z	PRINCEP CONTAINER		SELF HAUL TO CHRISTIE (CHEMICAL STORAGE AREA). P/U BY HAULER
7996	Z	HYDRAULIC FLUID CONTAINER		SELF HAUL TO HEAD OFFICE, P/U BY REGIST'D HAULER
7996	Z	PAINT CANS		SELF HAUL TO HOTZ AND SONS DEPOT
8011	B	METHYL METHACRYLATE		EVAPORATES
8011	T	NEEDLES		
8011	T	NEEDLES		
8072	B	UNIVERSAL DENTURE LIQUID		1 LITRE BLEACH ADDED TO BIOHAZARD CONTAINER, FREE PICK - UP BY ?
8412	Q	FIXTURE SPRAY		LIQUID EVAPORATES
				DISPERSES INTO ATMOSPHERE

Note: The classification of "Other Dumping" was used to classify all waste management which was not otherwise defined

Appendix A - 9 - Potentially Questionable Waste Management Methods

Appendix A – 9 – Potentially Questionable Waste Management Methods

Notes

The table included in this appendix has been separated into those waste streams of greater than 60 kg/yr and less than 60 kg/yr. This is due to the small quantity exemption for hazardous waste.

Potentially Questionable Waste Management Methods are defined as waste being discharge in one of the following manners:

- Garbage/dumpster
- Sanitary Sewer
- Storm Sewer
- On – site Treatment
- HHW depot – personal use
- Other Dumping.

Depending on the toxicity or concentration of contaminants, these waste streams may be defined as hazardous waste, (precluding the small quantity exemption), liquid industrial waste, or waste not in compliance with municipal by – laws. Not all of the waste streams given are necessarily out of compliance with applicable regulations or by – laws.

SIC Code	Waste Group	Tradename or Waste Type	Quantity Disposed	Waste Management Method Utilized
0742	S	X-RAY SOLUTIONS	160 L/yr	Sanitary Sewer
0742	S	X-RAY SOLUTIONS	160 L/yr	Sanitary Sewer
0742	S	X-RAY SOLUTIONS	80 L/yr	Other Dumping
0742	U	XRAY CHEMICALS: FIXER & DEVELOPER	408 L/yr	Sanitary Sewer
0782	R	HERBICIDE WEED CONTROL	1100 L/yr	Other Dumping
2434	B	WURTH CO. CARPENTER GLUE – DRIED	72 L/yr	Garbage
2759	D	BLEACH	208 L/yr	Sanitary Sewer
2759	O	THINNER	780 L/yr	On – Site Treatment
2759	U	RAGS TO CLEAN SCREENS	180 L/yr	Garbage
2759	U	RECLAIMER – DILUTE FROM POWDER	96 L/yr	On – Site Treatment
2759	U	WASH – UP	240 L/yr	On – Site Treatment
2759	U	HAZE REMOVER	96 L/yr	Sanitary Sewer
3443	J	ACETYLENE GAS	520 L/yr	Other Dumping
4212	P	WASTE OIL	96 L/yr	Other Dumping
4231	P	OIL FILTER – DRAINED	3600 /yr	Garbage
5032	A	HYDROCHLORIC ACID	240 L/yr	Sanitary Sewer
5231	Q	SPLT PAINT	288 L/yr	Garbage
5311	M	WATER TREATMENT CHEMICALS	200 L/yr	Sanitary Sewer
5311	O	FLOOR STRIPPER – ATTACK	200 L/yr	Sanitary Sewer
5551	P	GEAR OIL	400 L/yr	Other Dumping
5946	S	DEVELOPER – FILM	5200 L/yr	Sanitary Sewer
5946	S	STABILIZER – FILM	5200 L/yr	Sanitary Sewer
5946	S	DEVELOPER – SLIDE PROCESSING	260 L/yr	Sanitary Sewer
5946	S	STABILIZER – PAPER	6500 L/yr	Sanitary Sewer
5946	S	FIXER – FILM	5200 L/yr	Sanitary Sewer
5946	S	DEVELOPER – PAPER	5200 L/yr	Sanitary Sewer
5946	S	FIXER – SLIDE PROCESSING	5200 L/yr	Sanitary Sewer
7216	H	PERCHLOROETHYLENE	260 L/yr	Sanitary Sewer
7216	H	SLUDGE ON FILTER	1440 L/yr	On – Site Treatment
7216	H	VAR SOL – ODOURLESS CLEANSOL 3135	750 L/yr	Garbage
7217	N	CARPET PRE – SPRAY	520 L/yr	On – Site Treatment
7231	A	HAIR PERM – NEUTRALIZER SOLUTION	520 L/yr	Sanitary Sewer
7231	D	HAIR PERM SOLUTIONS	104 L/yr	Sanitary Sewer
7231	M	HAIR COLOUR	104 L/yr	Sanitary Sewer
7261	O	EMBALMING FLUID	85 L/yr	Sanitary Sewer
7261	T	BIOFLUID	2997 L/yr	Sanitary Sewer
7336	S	FIXER – FILM	1134 L/yr	Sanitary Sewer
			540 L/yr	Sanitary Sewer

SIC Code	Waste Group	Tradename or Waste Type	Quantity Disposed	Waste Management Method Utilized
7336	S	DEVELOPER – FILM	2340 L/yr	Sanitary Sewer
7384	S	DEVELOPER	144 L/yr	Sanitary Sewer
7384	S	FIXER – PAPER	520 L/yr	Sanitary Sewer
7384	S	STABILIZER – PAPER	1300 L/yr	Sanitary Sewer
7384	S	FIXER	144 L/yr	Sanitary Sewer
7384	S	FIXER – FILM	780 L/yr	Sanitary Sewer
7384	S	STABILIZER PAPER – CONTAINER	520 L/yr	Garbage
7384	S	DEVELOPER BLEACH – FILM	260 L/yr	Sanitary Sewer
7384	S	DEVELOPER – FILM	104 L/yr	Sanitary Sewer
7532	Q	PAINT ROOM AIR FILTERS	3720 /yr	Garbage
7534	P	OIL FILTER	1000 /yr	On – Site Treatment
7537	Y	WASH DOWN WATER	520 L/yr	Sanitary Sewer
7537	Y	PARTS WASH RINSE	540 L/yr	Sanitary Sewer
7538	J	ACETYLENE	125 L/yr	Other Dumping
7538	K	ENGINE SHAMPOO "SOLVENT IMMULSION CLEAN"	120 L/yr	Sanitary Sewer
7538	K	ENGINE SHAMPOO – RED STALLION	120 L/yr	Sanitary Sewer
7538	P	OIL FILTER – DRAINED	1040 /yr	Garbage
7538	P	OIL FILTER	2600 /yr	Garbage
7538	Y	FLOOR WASH – KEN – CO IND.	70 L/yr	Sanitary Sewer
7996	O	VAR SOL	340 L/yr	Other Dumping
7996	P	WASTE OIL	511 L/yr	Other Dumping
8011	T	CIDEX PLASTIC CONTAINERS	108 L/yr	Garbage
8011	T	CIDEX	108 L/yr	Sanitary Sewer
8021	S	X – RAY FIXER AND DEVELOPER	120 L/yr	Sanitary Sewer
8021	T	GAUZE WITH BLOOD	260 L/yr	On – Site Treatment
8021	T	MOUTH FLUSH INC. BLOOD	260 L/yr	Sanitary Sewer
8021	T	GLOVES	520 /yr	Garbage
8071	D	BLEACH 1.0%	1560 L/yr	Sanitary Sewer
8071	S	X – RAY FIXER	960 L/yr	Sanitary Sewer
8071	S	X – RAY DEVELOPER	1440 L/yr	Sanitary Sewer
8211	D	LIQUID BLEACH	96 L/yr	Sanitary Sewer
8221	T	BIOMEDICAL WASTES	13000 L/yr	On – Site Treatment

NOTE:

Quantity Disposed – for individual business surveyed
 See Appendix A – 7 for Description of Waste Management Response of "ON SITE TREATMENT"
 See Appendix A – 8 for Description of Waste Management Response of "OTHER DUMPING"

SIC Code	Waste Group	Tradename or Waste Type	Quantity Disposed	Waste Management Method Utilized
0742	N	GERMICIDE – SAVLON	10 kg/yr	Sanitary Sewer
0742	N	PENATHOL BIOTAL	4 kg/yr	Sanitary Sewer
0742	S	X – RAY FIXER	2 kg/yr	Sanitary Sewer
0742	S	X – RAY DEVELOPER	12 kg/yr	Sanitary Sewer
0742	T	CLEAN BIO – WASTE	12 kg/yr	Garbage
0742	T	SHARPS	12 kg/yr	Garbage
0782	P	WASTE OIL	24 kg/yr	HHW depot – personal use
1711	D	SODIUM HYDROXIDE	16 kg/yr	Sanitary Sewer
1721	Q	PAINT BRUSHES	10 kg/yr	Garbage
1794	P	WASTE OIL	20 kg/yr	On – Site Treatment
2434	O	LACQUER THINNER	15 kg/yr	Sanitary Sewer
2434	Q	LACQUER – DRIED	3 kg/yr	Garbage
2434	Q	LACQUER	24 kg/yr	HHW depot – personal use
2752	S	A AND B DEVELOPER	10 kg/yr	Other Dumping
2752	U	INKS – LIQUID	52 kg/yr	Garbage
2752	U	PLATE DEVELOPER	24 kg/yr	Sanitary Sewer
2759	D	BLEACH	4 kg/yr	Sanitary Sewer
2759	H	DRY CLEANING FLUID	12 kg/yr	Other Dumping
2759	O	VAR SOL RAGS	48 kg/yr	Garbage
2759	O	VAR SOL	48 kg/yr	Other Dumping
2759	O	THINNERS	48 kg/yr	On – Site Treatment
2759	O	VAR SOL	2 kg/yr	Sanitary Sewer
2759	U	DIAZO EMULSION	24 kg/yr	Sanitary Sewer
2759	U	PMT LIQUID	12 kg/yr	Other Dumping
2759	U	EMULSION	12 kg/yr	Sanitary Sewer
2759	U	HAZE REMOVER	6 kg/yr	Sanitary Sewer
2759	U	DIAZO EMULSION – CONTAINER	12 kg/yr	Garbage
2759	U	PRINT RAGS	48 kg/yr	Garbage
2759	U	EMULSION – WATER SOL.	48 kg/yr	Sanitary Sewer
2759	U	INKS	40 kg/yr	Garbage
3541	P	OIL AND GREASE	48 kg/yr	On – Site Treatment
3843	A	STRIP IT – H2SO4 & HF	4 kg/yr	Sanitary Sewer
3843	B	POWDER ACRYLIC	6 kg/yr	Garbage
3843	K	ETHANOL DISINFECTANT W CHLORHEXIDINE	5 kg/yr	Sanitary Sewer
3843	O	REMOVE IT – WAX SOLVENT	2 kg/yr	On – Site Treatment
3911	M	AMMONIA	52 kg/yr	Sanitary Sewer
3911	O	METHYL HYDRATE	8 kg/yr	Other Dumping
5093	P	GEAR OIL	3 kg/yr	Garbage
5251	O	VAR SOL	10 kg/yr	Sanitary Sewer

SIC Code	Waste Group	Tradename or Waste Type	Quantity Disposed	Waste Management Method Utilized
5251	Q	PAINTS--UNSALEABLE	20 kg/yr	Other Dumping
5251	X	OLD BALLASTS	6 kg/yr	Garbage
5311	O	VARSOL RAGS	8 kg/yr	Garbage
5311	P	WASTE OIL	40 kg/yr	Other Dumping
5541	J	CONTAMINATED ABSORBALL -- GASOLINE	52 kg/yr	Garbage
5541	N	PINE GUARD--PARA CHLOROPHENYL	8 kg/yr	Storm Sewer
5541	P	HYDRAULIC OIL	40 kg/yr	On--Site Treatment
5561	O	THINNERS	12 kg/yr	On--Site Treatment
5571	E	ANTI--FREEZE	8 kg/yr	On--Site Treatment
5949	N	COATING MARBLING AGENT	5 kg/yr	On--Site Treatment
7217	N	1--VP DEODERISER	6 kg/yr	Sanitary Sewer
7217	O	SOLVENT	48 kg/yr	Sanitary Sewer
7221	S	FIXER	27 kg/yr	Sanitary Sewer
7221	S	PHOTOGRAPHIC LAQUER	4 kg/yr	Other Dumping
7221	S	DEVELOPER	27 kg/yr	Sanitary Sewer
7231	A	HAIR PERM -- NEUTRALIZER SOLUTION	40 kg/yr	Sanitary Sewer
7231	D	HAIR RELAXER	6 kg/yr	Sanitary Sewer
7231	D	HAIR PERM SOLUTION	40 kg/yr	Sanitary Sewer
7231	D	REVLON NICE CHANGE -- HAIR RELAXER	24 kg/yr	Sanitary Sewer
7231	M	HAIR COLOUR	6 kg/yr	Sanitary Sewer
7231	N	BARBICIDE	36 kg/yr	Sanitary Sewer
7231	N	BARBICIDE	36 kg/yr	Sanitary Sewer
7231	O	NAIL POLISH REMOVER	12 kg/yr	On--Site Treatment
7261	D	LIQUID BLEACH	4 kg/yr	Sanitary Sewer
7261	N	QUAVO -- ANTI--BACTERIAL CLEANING AGENT	4 kg/yr	Sanitary Sewer
7261	R	KLUNK	3 kg/yr	Other Dumping
7291	T	ALCOHOL SWAB	24 kg/yr	Garbage
7311	S	PHOTOCHEMICALS	12 kg/yr	Sanitary Sewer
7334	U	ACTIVATOR--PRINTING	48 kg/yr	Sanitary Sewer
7334	U	STABILIZER--PRINTING	48 kg/yr	Sanitary Sewer
7336	S	NAP	24 kg/yr	Sanitary Sewer
7353	P	ABSORBALL	22 kg/yr	Garbage
7532	Y	SHURKLEEN, WUNRUB--13, FLOOR DEGREASER	18 kg/yr	Sanitary Sewer
7537	P	DIRT/SLUDGE -- FROM PARTS	24 kg/yr	Other Dumping
7537	P	FLOOR ABSORBENT	18 kg/yr	Other Dumping
7538	P	OIL FILTERS -- DRAINED	52 kg/yr	Garbage
7538	P	HOIST OIL	22 kg/yr	Sanitary Sewer
7538	Y	FLOOR WASH	24 kg/yr	Sanitary Sewer
7631	A	SPAREX NO.2 DRY ACID CONTAINER	2 kg/yr	Garbage

SIC Code	Waste Group	Tradename or Waste Type	Quantity Disposed	Waste Management Method Utilized
7631	A	SPAREX NO.2 DRY ACID	2 kg/yr	Sanitary Sewer
7631	A	BORACIC ACID	3 kg/yr	Garbage
7631	J	PROPANE	8 kg/yr	Other Dumping
7631	K	CLEANING SOLUTION -- ULTRA -- SONIC	7 kg/yr	Other Dumping
7631	K	CLEANING SOLUTION -- ULTRA -- SONIC	4 kg/yr	Garbage
7631	K	WATERLESS CLEANING SOLUTION	7 kg/yr	Other Dumping
7631	O	RINSING SOLUTION	7 kg/yr	Other Dumping
7631	O	ACETONE	2 kg/yr	Garbage
7922	E	ANTI-FREEZE	24 kg/yr	HHW depot -- personal use
7922	I	DRY CELL BATTERIES	10 kg/yr	HHW depot -- personal use
7922	O	VARSOL	36 kg/yr	HHW depot -- personal use
7922	P	WASTE OIL	40 kg/yr	HHW depot -- personal use
7996	L	LEAD-ACID BATTERIES	2 kg/yr	Other Dumping
8011	B	COLLOIDON	4 kg/yr	Garbage
8011	D	BLEACH	36 kg/yr	Garbage
8011	O	ACETONE	4 kg/yr	Garbage
8011	T	SYRINGES	20 kg/yr	Garbage
8011	T	EXPIRED MEDICATION	20 kg/yr	HHW depot -- personal use
8011	T	CETYLCIDE	2 kg/yr	Sanitary Sewer
8011	T	ALLERGY TESTING NEEDLES	3 kg/yr	Garbage
8011	T	DISINFECTANT CONTAINERS	6 kg/yr	Garbage
8011	T	EXPIRED MEDICATION	50 kg/yr	HHW depot -- personal use
8011	T	NEEDLES	9 kg/yr	Other Dumping
8011	T	DISINFECTANT	6 kg/yr	Sanitary Sewer
8011	T	NEEDLES	36 kg/yr	Other Dumping
8021	D	BLEACH	48 kg/yr	Sanitary Sewer
8021	D	BLEACH	8 kg/yr	Sanitary Sewer
8021	O	ETHANOL	24 kg/yr	Sanitary Sewer
8021	O	ETHANOL CO-HEXADONAL	48 kg/yr	Sanitary Sewer
8021	O	ALCOHOL	24 kg/yr	Sanitary Sewer
8021	S	X-RAY FIXER	5 kg/yr	Sanitary Sewer
8021	S	LEAD LINING ON X-RAY FILM	24 kg/yr	On-Site Treatment
8021	S	X-RAY DEVELOPER	8 kg/yr	Sanitary Sewer
8021	S	X-RAY FIXER	24 kg/yr	Sanitary Sewer
8021	S	X-RAY DEVELOPER	24 kg/yr	Sanitary Sewer
8021	T	SHARPS	2 kg/yr	On-Site Treatment
8021	T	SURGICAL FLUIDS	5 kg/yr	Sanitary Sewer
8021	T	PATHEX	3 kg/yr	Sanitary Sewer
8071	A	0.25% HCL	6 kg/yr	Sanitary Sewer

SIC Code	Waste Group	Tradename or Waste Type	Quantity Disposed	Waste Management Method Utilized
8071	S	CHRISTAL-A DEVELOPER	36 kg/yr	Sanitary Sewer
8071	S	CHRISTAL-A FIXER	36 kg/yr	Sanitary Sewer
8071	S	FIXER SYSTEM CLEANER	15 kg/yr	Sanitary Sewer
8071	S	CHRISTAL DEVELOPER SYSTEM CLEANER	15 kg/yr	Sanitary Sewer
8072	B	UNIVERSAL DENTURE LIQUID	8 kg/yr	Other Dumping
8072	T	PATHEX	4 kg/yr	Garbage
8072	T	VIROCINDIN-X	4 kg/yr	Garbage
8211	O	FLOOR STRIPPER	4 kg/yr	Sanitary Sewer
8211	S	PHOTOCOPY TONER	12 kg/yr	Garbage
8221	S	X-RAY SOLUTIONS	48 kg/yr	Sanitary Sewer
8249	D	ALKALINE PERM SOLUTION	52 kg/yr	Sanitary Sewer
8249	D	WELLITE BLEACH	6 kg/yr	Sanitary Sewer
8249	M	PEROXIDE	52 kg/yr	Sanitary Sewer
8249	M	PEROXIDE	52 kg/yr	Sanitary Sewer
8249	M	HAIR TINTS	52 kg/yr	Sanitary Sewer
8249	N	BARBICIDE	12 kg/yr	Sanitary Sewer
8249	N	BARBICIDE	9 kg/yr	Sanitary Sewer
8249	O	SPENT NAIL POLISH REMOVER	8 kg/yr	Garbage
8412	J	LIGHTER FLUID	10 kg/yr	HHW depot -- personal use
8412	O	VAR SOL	2 kg/yr	HHW depot -- personal use
8412	O	TURPENTINE	4 kg/yr	Garbage
8412	O	TURPENTINE	4 kg/yr	HHW depot -- personal use
8412	O	VAR SOL	4 kg/yr	On-Site Treatment
8412	Q	OIL PAINT	2 kg/yr	Garbage
8412	Q	PAINT BRUSHES	6 kg/yr	Garbage
8412	S	PHOTOCOPY TONER	6 kg/yr	Garbage

Appendix B - Related Correspondence

REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH
BUILDING DEPARTMENT SERVICES

PLUMBING

PAINTING

ELECTRICAL

DECK LAYING

HEATING, VENTILATION AND AIR CONDITIONING

CITY OF HAMILTON - REQUIRED SERVICES

ADULT ENTERTAINMENT PARLOR

Owner

Operator

Manager

Regulatory Form by Authority

BARBERS

CAR BROKER

CAR DRIVER

Driver must be licensed in the

Province of Ontario

Regulatory Form

PLACES OF AMUSEMENT

Amusement Machine

Amusement Ride

NEITHER ENVIRONMENT CANADA NOR R. CAVE AND ASSOCIATES ENGINEERING LTD.

ENDORSE ANY OF THE COMPANIES OR PRODUCTS HEREIN CONTAINED

Swaps Parlor

Swaps Alley

Swaps Hall

Swaps Stage Box

Swaps Theatre

CAR OWNER (DRIVER)

Operator & Manager & Driver must be

licensed in

LEASING AGREEMENT

INDIVIDUAL AGREEMENT

PROPERTY LIST

AUCTIONEER

BAKING

BARBERS/HAIR SALON

BILL DRINK ORDER

BILL ORDER

BURY LUG PARLOR

Owner

Operator

Manager

CARAGE VEHICLE

Operator & Manager must be licensed in

Ontario

Other

Car

DRIVING INSTRUCTOR

Operator & Manager must be licensed in

DRIVING SCHOOL

Operator & Manager must be licensed in

CARAGE VEHICLE

Page 1 of 2

NEITHER THE BOARD OF DIRECTORS NOR THE COMPANY ARE RESPONSIBLE FOR THE
CONTENT OF THE INFORMATION OR FOR THE RESULTS OF ANY INVESTMENT

REGIONAL MUNICIPALITY OF HAMILTON-WENTWORTH
BUILDING DEPARTMENT LICENCES

BUILDING REPAIR

PLUMBING

ELECTRICAL

DRAIN LAYER

HEATING, VENTILATION AND AIR CONDITIONING

CITY OF HAMILTON - REQUIRED LICENCES

ADULT ENTERTAINMENT PARLOUR

- Owner
- Operator
- Attendant
- Replacement Photo for Attendant

PLACES OF AMUSEMENTS

- Amusement Machines
- Amusement Rides
- Carnival - \$90.00 a day for Charity
- Circus
- Arena
- Billiards
- Bingo Parlour
- Bowling Alley
- Public Hall
- Roller Skating Rink
- Theatre

AUCTIONEER

BAKESHOP

BARBER/HAIRDRESSER

BILL DISTRIBUTOR

BILL POSTER

BODY RUB PARLOUR

- Owner
- Operator
- Attendant

BUTCHER

CAB BROKER

CAB DRIVER

- *(Driver's Abstract to be submitted at time of renewal)*
- Replacement Photo

CAB OWNER (PRIVATE)

- *Ownership & Insurance & Safety to be brought in*

CAB OWNER (PUBLIC)

- *Ownership & Insurance & Safety to be brought in*

LEASING AGREEMENT
(RENEWAL AGREEMENT)

PRIORITY LIST

CARTAGE VEHICLE

- *Ownership & Insurance to be brought in*
- Dump
- Others
- Cart

DRIVING INSTRUCTOR

- *Provincial Certificate to be shown*

DRIVING SCHOOL

- *Ownership & Insurance to be brought in*

DRIVE YOURSELF ESTABLISHMENT

DRY CLEANERS

- Plant
- Receiving Station

EATING ESTABLISHMENTS

- Lunch Counter
- Refreshment Stand
- Restaurant
- Drive-In Restaurant

FLEA MARKET

- Owner
- Stallholder

FOOD SHOP

FRESH FISH

GARAGE

- A (Buying, Selling, Storing)
- B1 (Combined Engine & Bodywork)
- B2 (Engine Work)
- B3 (Bodywork)
- C (Gas Pumps (hoses))
- D (Parking Lot)
- E (Car Wash Only)

NON-RESIDENT PRODUCE WHOLESALE

LAUNDRY

- Plant
- Coin Operated

LIVERY VEHICLE

- *Ownership, Insurance & Safety to be brought in*

LIVERY DRIVER

- *(Driver's Abstract to be submitted at time of renewal)*

LODGING HOUSE

SECOND LEVEL LODGING HOUSE

MASSAGIST - MASSEURS - REFLEXOLOGY

- *(if opening a location, application must go to BFHP. Also to be licensed by the Drugless Practitioner's Act of Ontario first)*

OLD GOLD DEALER

- *(No old gold dealers allowed at Flea Markets)*

PAWNBROKER

- \$2,000.00 Surety Bond Required

PEDLAR

- Foot
- Vehicle - *Ownership & Insurance to be brought in*

PET SHOP

REFRESHMENT VEHICLE

- *Ownership & Insurance to be brought in*

SALVAGE YARD

- *(Police interview re record keeping, must have our lic. first., Min. of Trans. & Comm. Lic. also req'd when selling auto parts)*

SECOND HAND

- *Police interview re record keeping*

SPECIAL SALE

STEAM BATH

TRANSIENT TRADER

BUILDING EXTERIOR CLEANERS (SANDBLASTERS)

TOW TRUCK

TOW TRUCK DRIVER



General Motors Research Laboratories
Warren, Michigan 48090-9055

October 31, 1985

Mr. Peter L. Clark
Assistant to the President
AMSOIL Inc.
AMSOIL Building
Superior, WI 54880

Dear Mr. Clark:

I have consulted with our Legal Staff about the questions you posed in your letters of August 9, 1985 and September 27, 1985. I apologize that this process has taken so long.

As our new vehicle warranties explain, damage caused by the failure to follow recommended maintenance procedures is not covered by the warranty. Maintenance recommendations include oil change intervals of not more than 7,500 miles.

If damage occurred during the period of warranty coverage, and the damage was not attributable to a customer's failure to follow recommended maintenance procedures, and was, instead, attributable to a defect in manufacturing materials or workmanship, that claim would be honored under warranty. Accordingly, if engine damage otherwise covered by warranty was found to be unrelated to the engine lubricant, then the consumer's practice with regard to oil change intervals would not be a relevant consideration, and the warranty claim would be honored.

Warranty service is performed on General Motors cars by General Motors dealers. I cannot say categorically that an examination of the failed component is conducted in all cases to ascertain the cause of failure or its relation to maintenance practices. In our experience, however, a warranty claim would not be denied unless dealer service personnel determine, by examination or otherwise, that the product problem is not covered by the warranty.

As you well recognize, General Motors engines are engineered to last well beyond the warranty period. Because of this, we believe that it is in the

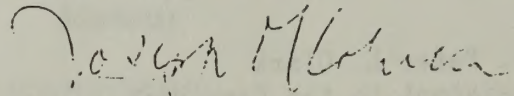


Let's Get It Together
SAFETY BELTS SAVE LIVES

Mr. Peter I. Clark
October 31, 1985
Page Two

best interests of our vehicle owners that their engine oil be changed according to our recommended practices, and that the owners follow the oil change, quality and viscosity recommendations provided in our owner's manuals.

Sincerely,



Joseph M. Colucci, Head
Fuels and Lubricants Dept.

jmc.ae3/v/l



Customer
Sales & Service

Customer Sales & Service Staff

March 29, 1990

Thank you for your March 19, 1990, letter concerning engine oil and the General Motors New Vehicle Warranty.

At the outset Mr. Geist, we appreciate having the opportunity to address your questions. It is unfortunate you were unable to obtain the information you were seeking from your dealer locally.

Synthetic or part synthetic oils are satisfactory for use in General Motors vehicles provided they meet the applicable API service category and are of the proper viscosity grade. For 1990 Model General Motors vehicles equipped with gasoline engines, the proper service category is SG (SG is also appropriate for earlier model year vehicles). The proper viscosity grade as specified in the Owner's Manuals in 1990 and earlier, is SAE 5W-30 or SAE 10W-30.

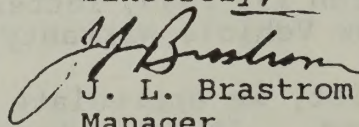
The New Vehicle Warranty would not be void simply because an owner failed to use proper engine oils or did not perform maintenance at the prescribed intervals. Warranty applicability is contingent upon the cause of failure and generally covers defects in material and workmanship only. On the other hand, if engine failure were reasonably determined to be the lack of maintenance or the use of wrong or improper fuels or lubricants, then the repair would not be covered by warranty.

The General Motors recommended oil change intervals are based on extensive proving ground, laboratory and fleet testing. As such, our recommended intervals of between 3,000 and 7,500 miles continue to be applicable depending on the driving conditions under which the vehicle is used. Although we are aware that used oil analysis is used in the heavy duty truck side of the business for establishing change intervals, we do not believe that such a practice is practical on a vehicle-by-vehicle basis. We would recommend you change oil based on time and mileage intervals depending on how you operate your vehicle.

Enclosed for your further information are copies of the 1990 General Motors Maintenance Schedule for Passenger Cars and our booklet entitled "Straight Tips on Engine Oil".

Again, thank you for writing.

Sincerely,


J. L. Brastrom
Manager

Service Policies & Procedures

May 01, 1992

Mr. Eric Hopkins
R. Cave & Associates Engineering Ltd.,
1155 North Service Road, West
OAKVILLE, Ontario
L6M 3E3

Dear Mr. Hopkins:

Ré Small Quantity Hazardous Waste (SQHW) Demonstration Project

Thank you for your letter of April 27, 1992.

Over the years, AARO has liaised with the Waste Management Branch of the Ontario Ministry of Environment and, in fact, assisted them in the development of guidelines for the handling and disposal of used oil and other selected wastes from automotive repair garages. Notwithstanding this, AARO itself has not produced any such guidelines.

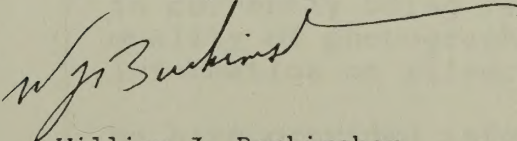
May I suggest that you contact my good friend Dean Wilson, the president of the Automotive Industries Association (AIA). That organization has recently produced waste management guidelines for the automotive industry. It is my understanding that the information contained therein addresses waste disposal concerns in all sectors of the automotive aftermarket. You can reach Mr. Wilson at the following address:

AIA
1272 Wellington Street
Ottawa, Ontario
K1Y 3A7

Ph: (613) 728-5821
Fx: (613) 728-6021

I trust the foregoing information will prove helpful relative to your SQHW project.

Yours very truly,



William J. Burkimsher
Executive Director

cc: Dean Wilson

P.S. I also serve as Executive V.P. of NATA, the National Automotive Trades Association and received a letter from you in that capacity as well. Please accept this response on AARO letterhead as being on behalf of both organizations. Thank you.





R. CAVE
AND
ASSOCIATES
ENGINEERING LTD.

CONSULTING
ENGINEERS

1155 North Service Road, West
Unit 13
Oakville, Ontario
L6M 3E3

Telephone: (416) 825-8440
Fax: (416) 825-8446

May 21, 1992

File No. 148-30-04

Automotive Industries Association
1272 Wellington St.
Ottawa, Ontario
K1Y 3A7

Attention: Mr. Dean H. Wilson, President

Dear Mr. Wilson:

Thank you for your time in discussing waste management in the automotive industry. It is important that businesses, big and small, know of information such as your association's *waste management guidelines*. One of the goals of the Small Quantity Hazardous Waste Project is to develop networks where information can be passed to businesses in each industrial sector. It is hoped that eventually businesses will know "where to go" and "who to ask" in order to get more information.

We will be talking to various automotive associations, in order to determine the demand for your guideline document, and to distribute information regarding the Small Quantity Hazardous Waste Generator Project. With increased exposure to environmental concerns; hopefully, businesses will begin to practice pollution prevention.

As discussed, please find enclosed 100 copies of the **Information Booklet** for inclusion in your *waste management guidelines*. Should more be required, please let me know.

Yours truly,

R. CAVE AND ASSOCIATES LTD.

Eric T. Hopkins, B.A.Sc.(Eng.)
Project Technical Coordinator

ETH/e

encl.



Photo Marketing Association International

Association du Marketing de la Photo Internationale

34 King William Street, P.O. Box 610, Huntsville, Ontario P0A 1K0 Canada

(705) 789-8885 • (800) 461-4350 • Fax (705) 789-6371

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Baltimore, MD 21223

Vice President

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Wolfe's Camera & Video
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Topeka, KS 66601

Treasurer

JOHN ASA

Japan Camera Centre, Ltd.
150 Lesmill Road
Don Mills, ON M3B 2T5

Executive Director

ROY S. PUNG

PMA
3000 Picture Place
Jackson, MI 49201

May 26, 1992

RECEIVED

MAY 28 1992

R. CAVE & ASSOCIATES LTD.

Mr. Eric T. Hopkins
R. Cave and Associates Ltd.
1155 North Service Road, West
Unit 13
Oakville, ON L6M 3E3

Dear Mr. Hopkins:

This will respond to your letters from R. Caveman and Associates dated March 24 and April 27, 1992.

PMA represents photofinishers and retailers in excess of 1,800 members in Canada. Our activities are described in the enclosed literature.

We are concerned with the environment and have instituted programmes for recovering and recycling plastics, metals and papers. This is supported by suppliers on a national basis.

We also have an environmental committee with representatives from suppliers of photographic materials and chemicals as well as users. This committee meets on a regular basis and deals with MISA, Regulation 309 authorities as well as representatives from the Hazardous Substances Branch. In addition, we maintain contact with municipal sewer use authorities as required.

Currently, we are dealing with the Peel Study carried out by MISA and are anticipating that report momentarily. This may involve a Best Management Practices Plan. If you wish, we will be glad to provide you with details at a later date.

We are enclosing a copy of "An Overview of Photofinishing and the Environment" which will be of interest to you. This is currently being revised because of improvements in the quality of photographic effluents. We also are enclosing information on silver which will be of interest.

We have provided information to Dale Millar of the Hamilton-Wentworth Region, Environmental Services Sewer Use Control.

In general, none of our members are classified as Small Quantity Hazardous Waste Generators which of these will be small independent darkroom operations by professional photographers or by schools. Some dentists with x-ray

2.

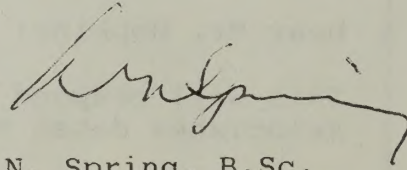
May 26, 1992

facilities may also be SQHW generators. In these cases, we can tell you that Kodak Canada Inc. offers the Junior Model II cartridge, literature on which is enclosed.

We will be glad to distribute literature to our members in the Hamilton-Wentworth Region or elsewhere if you will provide us with some samples for consideration.

Please call us if we can be of help.

Sincerely,



D.N. Spring, B.Sc.

DNS:mt
Encl.

AN OVERVIEW OF PHOTOFINISHING AND THE ENVIRONMENT

Photo Marketing Association International

Prepared for U.S. and Canadian Members

By D.N. Spring, B.Sc.
Director of PMA Canadian Activities

August 1991

*Data presented in this overview is based on current information
received from manufacturers, and is subject to change.*



Photofinishing Effluent Characteristics

C-41 DEVELOPING AND PRINTING

CHARACTERISTIC	EFFLUENT CONCENTRATION RANGE*
pH	6.0 to 10.0
Temperature (Maximum)	48 to 71° C (120 to 160° F)
B.O.D. ₅	200 to 1200
C.O.D.	400 to 2500
Total Suspended Solids (TSS)	200 to 1000
Total Dissolved Solids (TDS)	250 to 5000
Chlorine Demand	10 to 40
Phenols	0.001 to 1.0
Oil and grease	less than 100
Iron	3.0 to 100
Silver	0.001 to 20.0
Zinc	0.25 to 5.0

*All units except temperature and pH are in mg/L (ppm).

This reflects current information. But note that the introduction of new chemicals will result in lower concentration and loading levels. This covers both washless and conventional systems and may vary depending on wash water rates. While the concentrations for washless systems are higher, the loading is generally less. In addition, there are savings in water and power.

None of the materials listed on the U.S. EPA Priority Pollutant List will be found in the effluent from processes EP-2, C-41, E-6, or RA-4, with the exceptions of Zinc and Silver.

CHEMICAL LOADING PER 100 ROLLS OF FILM DEVELOPED AND PRINTED

Sodium Acetate	0.2 lbs.
Ammonium NH ₄	0.64 lbs.
Iron Fe	0.16 lbs.
Nitrate NO ₃	0.03 lbs.
Sulfate SO ₄	0.03 lbs.
Sulfite SO ₃	0.24 lbs.
Thiosulfate	1.66 lbs.
B.O.D. ₅	1.03 lbs.
C.O.D.	2.64 lbs.
Silver	2.1 troy ounces (65.1 g)

Please note that Ammonium Thiosulfate is not toxic under U.S. EPA or Canadian TDG (Transportation of Dangerous Goods) regulations. Ammonium Thiosulfate is used in fixers and is a key ingredient in rapid processes. The Ammonium Thiosulfate discharged to sewer systems degrades rapidly and does not usually present a disposal problem.

pH

pH is a measure of the acidity or alkalinity of the effluent. Normal processing operations should not exceed the limits for pH or temperature when solution overflows and wash waters are mixed. Most mini labs today operate without wash water, and discharge of large volumes of processing solutions might violate the regulations. Labs that must dispose of a large volume of chemicals at one time should transfer the solution to a holding tank, adjust the pH if necessary, and discharge it gradually.

B.O.D.₅

B.O.D.₅ is a 5-day test for biochemical oxygen demand. It measures the amount of oxygen that the effluent will consume through biological degradation over a 5-day period. If the oxygen demand is too high, it can overload the aeration capacity of the treatment plant, and the plant will release waste water that contains oxygen-demanding chemicals that could deplete the oxygen levels in a receiving body of water. Fish and other aquatic life require 5 to 7 milligrams per litre (mg/L) or parts per million (ppm) of dissolved oxygen for survival. Normally, water contains 5 to 9 mg/L of dissolved oxygen at 70 degrees F (21 degrees C). This concentration decreases as the temperature increases. A B.O.D.₅ of 400 mg/L or 400 ppm would mean that 1 litre of the effluent would consume 400 milligrams of oxygen in 5 days in a natural body of water.

C.O.D.

C.O.D. is a test for chemical oxygen demand. This test measures oxygen-demanding chemicals and requires only about two hours to complete. However, some of the chemicals measured by this test may not be degraded by microorganisms. C.O.D. concentrations are almost always higher than

B.O.D.₅ concentrations. Therefore, the results normally will not correlate with those of a B.O.D.₅ test, and the two results should not be compared.

TSS and TDS

TSS and TDS stand for *Total Suspended Solids* and *Total Dissolved Solids*. Suspended solids are undissolved matter in the effluent and are usually not a concern in photoprocessing effluents. Levels of dissolved solids are usually fairly high in minilabs that operate without washes.

Formaldehyde

- **What is formaldehyde?**

Formaldehyde is a water soluble, colorless, pungent gas. It is produced and sold in aqueous solutions containing small amounts of methanol to stabilize it.

- **What hazards are associated with formaldehyde?**

Formaldehyde vapor is irritating to the eyes and respiratory tract. Contact with concentrated solutions of formaldehyde will cause serious eye burns, skin irritation, and allergic skin reactions. Formaldehyde also has been listed as a carcinogen or potential carcinogen based on animal studies.

- **How is formaldehyde used in photographic applications?**

Formaldehyde is used as an emulsion hardener, a preservative, and a stabilizer.

- **Is formaldehyde in photochemicals harmful?**

It is very soluble in water and is removed from the atmosphere by rain. It is readily biodegradable and will not persist in streams and lakes. It may be of concern under workplace safety regulations which cover employee handling of chemicals.

- **Does formaldehyde pose a hazard to waste water treatment plants?**

The formaldehyde concentration in photoprocessing lab effluent is normally less than .01 percent. However, because formaldehyde combines with other chemicals, formaldehyde, as such, would not be present. Formaldehyde is readily biodegradable. Any formaldehyde reaching the waste treatment plant would be easily and quickly biodegraded.

Phenols

PHENOLS are not normally components of photographic chemicals. However, some components such as developing agents and sulfur-containing organics may generate a false positive result in certain phenol test methods. These compounds do not behave chemically in the same way or present the same health concerns as phenols and they do not produce an objectionable taste and smell in water as do phenols.

Heavy Metals

HEAVY METALS are metals with a specific gravity greater than 5.0; they include metals such as cadmium, chromium, cobalt, copper, gold, iron, lead, manganese, mercury, molybdenum, nickel, silver, and zinc. At certain concentrations, some of these metals can be highly toxic and harmful to treatment plants and receiving bodies of water. However, the toxicity varies with the particular metal and the form in which it exists. Cadmium, copper, cobalt, gold, lead, manganese, mercury, molybdenum, nickel, and complexes of these metals are not used in processing chemicals, but minute amounts in certain photosensitive products may leach out during processing.

Chromium

Some bleaches used in black-and-white reversal processes, as well as systems cleaners such as Developer Systems Cleaner, contain chromium compounds. Hexavalent chromium (chromium with a valence of 6) is harmful. Some local sewer codes limit the discharge of hexavalent chromium to 0.1 parts per million. However, when a dichromate bleach is mixed with other processing solutions that are alkaline and with solutions that contain reducing agents, such as thiosulfate, the chromium is precipitated as trivalent chromium hydroxide and is removed in a primary or secondary treatment plant as sludge. If a sewer-code limit requires, you can treat chromium before discharge by collecting the chromium-bearing overflow and reducing the hexavalent chromium to the trivalent form by adding bisulfite. Then adjust the pH of the solution to 8 by adding an alkaline chemical to precipitate the chromium.

Zinc

ZINC is a component of some paper bases and gelatins. It is sometimes present in the photo processing effluent but usually at concentrations less than 1 mg/L.

Iron Complexes

IRON COMPLEXES are used in many photographic bleaches and bleach-fixes and are present in the discharge from steel-wool metallic-replacement cartridges used for silver recovery. Iron is commonly regulated because it affects the appearance and taste of water. Iron precipitates, in the form of iron hydroxides, can also cause rust stains and clog the gills of fish. Iron in photographic solutions is normally not a problem because it is present in the form of stable iron complexes.

Silver

Silver is the principal component in photo sensitive films and papers. It captures light rays and other radiant energy to form the image in snapshots, medical, dental, and industrial radiographs, microfilm, motion pictures and most printing processes. Applications are found in homes, hospitals, dentists' offices, business systems, one-hour and conventional photofinishing labs, portrait and commercial studios, newspapers, printers and publishers. Applications are also found in many government operations both civilian and military.

There is no known substitute for silver in these applications.

Silver and Silver Compounds

SILVER AND SILVER COMPOUNDS are not components of processing chemicals. Silver compounds are the basis of most photographic light-sensitive materials, and during processing, these compounds are converted to water-soluble silver thiosulfate, which is found in photofinishing effluents.

In the treatment plant, residual silver thiosulfate discharged is converted to insoluble silver sulfide that precipitates in the sludge. Silver sulphide is less toxic than silver thiosulfate and represents the most abundant naturally occurring form of silver. Concentrations up to 300 mg/L of silver in the form of silver sulfide in activated sludge do not interfere with the rate of normal biodegradation.

What about silver in the environment?

- (A) Silver is solubilized as the tightly bound thiosulfate complex during processing of photographic paper and film.
- (B) Data shows that silver-thiosulfate complex is not harmful to secondary waste treatment plants.
- (C) Silver thiosulfate in secondary waste treatment plants is converted to insoluble silver sulfide, which is removed in sludge.
- (D) Silver sulfide does not affect anaerobic digestion.
- (E) No significant amounts of free silver ion are discharged to the aquatic environment.

Silver in Photographic Processing

All systems require processing:

- Developing and fixing and washing for black-and-white material.
- Since color images contain no residual silver, bleaching and fixing are required.
- All have effluents to sewers and the environment.

NatureCare™ RTU ZERO WASTE, RIGHT NOW

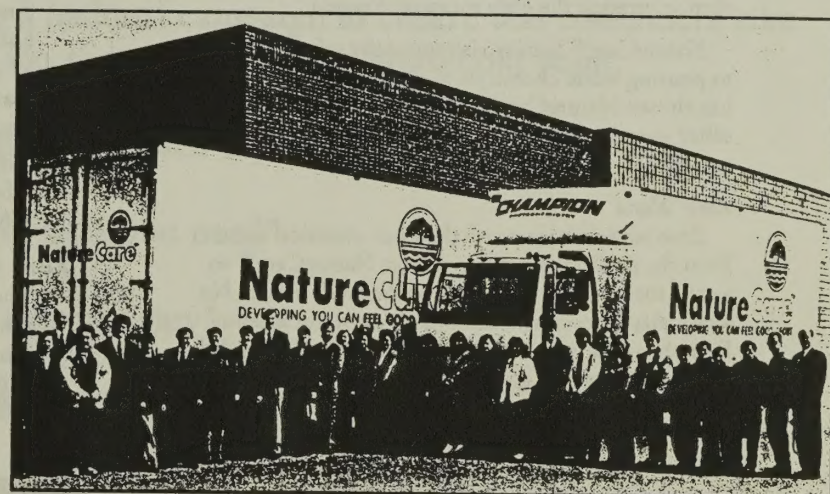
Reducing, re-using and recycling are the cornerstones of waste management. NatureCare™ RTU practices all of them to virtually eliminate environmental waste from the photo processing of colour negative film and prints.

NatureCare™ RTU developing surpasses all requirements of environmental legislation. At a time when many photofinishers don't comply with existing and strict forthcoming legislation, NatureCare™ RTU exceeds the strictest standards, right now. Now, consumers can feel good about their photographs, secure in the knowledge that NatureCare™ takes care of the environment.

Zero effluent at the photolab: All waste chemicals are hauled away by NatureCare™ trucks, a licensed waste hauler.

Zero sewer effluent at the Champion Photochemistry factory in Mississauga: 40% of chemicals are regenerated for re-use. All others are distilled to end up with distilled water which is reused and not sewered. Even the wash water is distilled and not sewered.

Zero packaging to landfill: Since the waste is removed from the photolab in the very same bottles that the fresh chemistry arrived in, all chemical packaging is returned to the Champion Photochemistry factory where 100% of the bottles are washed and re-used over and over again. Scrap bottles are washed and recycled. All corrugated boxes



ON THE ROAD WITH NATURECARE™ - The new Champion NatureCare™ trucks and employees in Mississauga, Ontario, Canada

have been eliminated.

Zero to the atmosphere: NatureCare™ vacuum distillation vents no chemicals to the atmosphere. Zero air pollution.

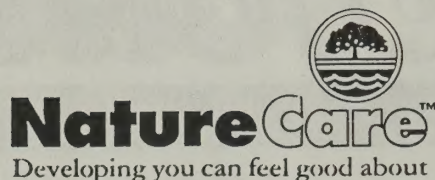
NatureCare's™ new generation of low effluent colour negative film and print chemicals are more efficient, so it takes less of them to do the job. The NatureCare™ Treatment Facility uses the most advanced technologies to reduce waste. Chemical regeneration, electrolytic silver recovery, ion-exchange systems, vacuum distillation and ultra-violet and carbon filter water treatment lets us deliver what the NatureCare™ name promises.

NatureCare™ transports the small amount of remaining waste to a government approved and inspected

site where it is environmentally reduced by high tech scrubbers. The minute amount of remaining ash (about 1/3 of 1% of the original volume) can be re-used for chemical pre-treatment or for agricultural purposes. The remaining is bagged and sent to a secure landfill.

NatureCare™ RTU will be available in Ontario and Quebec by the end of May 1992. It is expected that the states of New York, Ohio and Michigan will be added as soon as transportation licenses have been secured. NatureCare™ RTU will only be offered to regions where it is economical for NatureCare™ trucks to operate.

For further details on the NatureCare™ RTU program contact "THE PHOTOCHEMICAL SPECIALISTS", Mississauga, Canada.



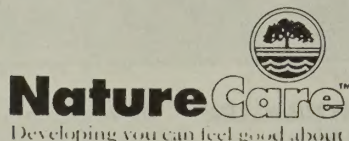
NatureCare™ means Zero Waste, right now.

Sometimes your dentist will need to x-ray your teeth as part of routine dental care. X-rays are an important part of health care but every film needs chemicals to process the image. The chemicals are then sewered as the only mean of disposal.

NatureCare™ is an environmentally safe alternative to pouring waste chemicals to drain and your dentist has chosen NatureCare™ to ensure that this dental office guarantees that no such waste chemical passes to sewer.

Zero Waste

Zero waste means more than just chemical waste. Even the packaging used to deliver NatureCare™ to your dentist will be collected, washed and reused. No waste plastic, no waste cardboard, no waste labeling. Even the water used to wash the used bottles is recycled and used again and again.



We've Developed Solutions.

To develop x-ray films, your dentist requires chemicals. Your dentist has acted to ensure that none of these chemicals pollute the environment by ensuring zero waste to drain. Instead, the used chemicals are collected and safely treated by NatureCare™.

The NatureCare™ Treatment Facility uses the most advanced technologies to reduce waste. Regeneration, electrolytic silver recovery, ion-exchange systems, vacuum distillation and ultra-violet and carbon filter water treatment let NatureCare™ deliver what our name promises.

NatureCare™ transports the small amount of remaining waste to a government approved and inspected site where it's environmentally reduced by high tech scrubbers. The minute amount of remaining ash (about 1/3 of 1% of the original volume) can be re-used for chemical pretreatment or agricultural purposes.

NatureCare™ was developed in Canada by Champion Photochemistry and is distributed exclusively by Healthco



MINIMUM OF 60% RECYCLED PAPER FIBRE,
INCLUDING 10% POST CONSUMER FIBRE

Zero waste to sewer:

- NatureCare™ operates its own licensed waste haulage trucks to safely transport waste chemical to the NatureCare™ Waste Treatment factory.



Zero sewer effluent at the NatureCare™ factory:

- 90% of the waste content is recovered and reused as fresh water.
- After removing the water, the remaining waste is incinerated to produce a reusable sodium rich ash.
- Zero chemical waste is passed to the sewer.

Zero packaging to landfill:

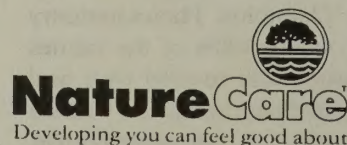
- Since the waste is collected in the very same bottles that the fresh chemistry arrived in, all chemical packaging is returned to the NatureCare™ factory where:
- 100% of the bottles are washed and re-used over and over again.
- Scrap bottles are washed and recycled.
- All corrugated boxes have been eliminated.

Zero to the atmosphere:

- The NatureCare™ vacuum distillation system vents no chemicals to the atmosphere. Incineration is undertaken using hi-tech scrubbers to maintain strict legal limits.



Our future is in the hands
of our children.



CANADIAN PAINT AND COATINGS ASSOCIATION

CONSUMER INFORMATION CAMPAIGN ON HOUSEHOLD WASTE REDUCTION

- As part of the waste reduction program being managed by the Canadian Paint and Coatings Association's Waste Household Paint Committee, the association is developing a national campaign to ensure that consumers take proper steps to assist in the reduction of waste household paint.

- Utilizing the acronym "BUD", which stands for:

"Buy no more paint than you need"

"Use all the paint that you buy"

"Dispose of all leftover paint safely and properly"

the campaign will explain to consumers, in simple, direct language, three important environmental considerations to take into account when buying paint.

- The campaign will feature a five-panel, four-colour brochure, to be distributed at paint retail outlets.
- The pamphlets will be produced in both official languages, along with display stands for holding them and four-colour header boards.
- CPCA member companies will be responsible for distributing stands, header-boards and brochures to the various retail outlets.
- The association believes that this program will have a significant impact in helping reduce the quantity of waste household paint that is generated.

**When buying
or using paint
remember...**

BUD



Buy no more than you need

Use all the paint that you buy

**Dispose of all leftover
paint safely and properly**

Buying more paint than you need costs you money. It also creates the problem of disposing of leftover paint. Do yourself, and the environment, a favour by buying the right amount for the job. Ask your paint dealer for help.

Use all the paint that you buy. An extra coat will give more protection. Or share your leftovers with a neighbour who has a small area that needs painting.

Don't pour leftover paint down the drain. Save it for your "Household Hazardous Waste" collection day, or if your community has a permanent Hazardous Household Waste Depot, take it there. Properly collected, paint and paint cans can be recycled. Check with your local government or municipality for details.

How to handle leftover paint for recycling

Empty Cans

Once you have used all the paint in the can dry it by leaving the lid off. Make sure that the can is out of reach of children and animals, and in a well-ventilated area. Completely dry cans are easier to collect for recycling.

Don't Put Oils or Other Wastes in Paint or Paint Cans

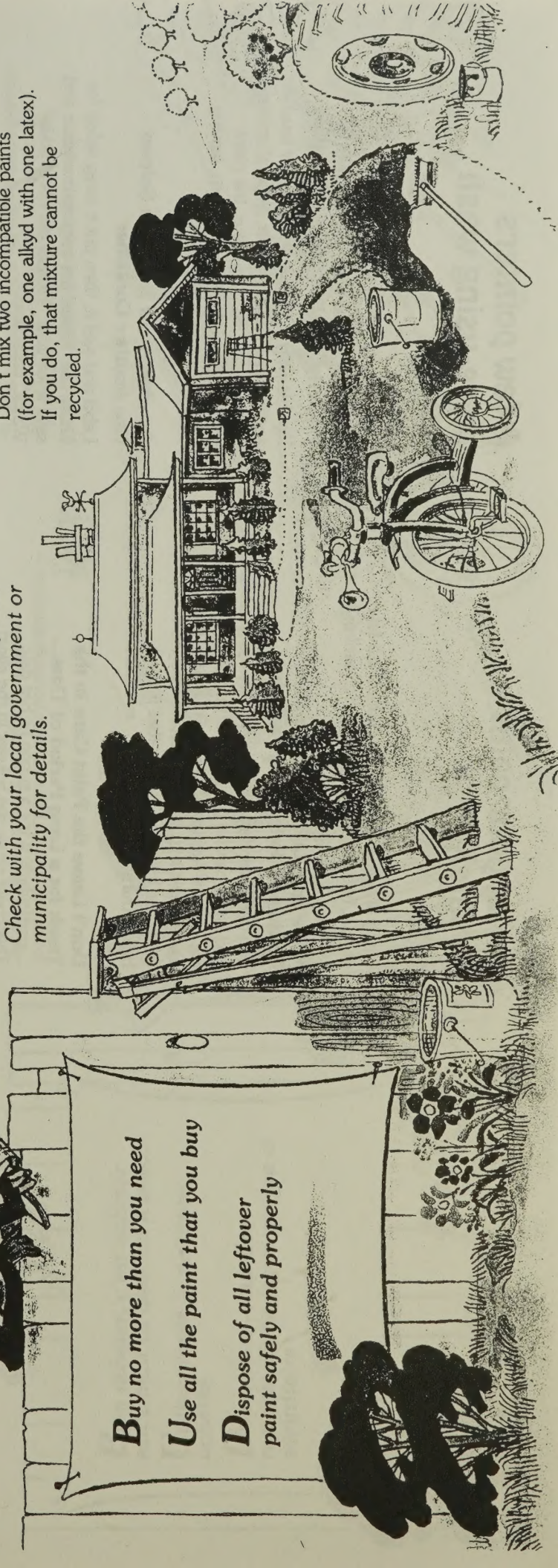
This can make it difficult, or even impossible, to recycle the leftover paint.

Leave the Label On

It makes it easier to recycle the paint if the label is still on the can.

Don't Mix Leftover Paints

Don't mix two incompatible paints (for example, one alkyd with one latex). If you do, that mixture cannot be recycled.



Bring your paint in safely

When bringing the paint in, there are a few simple, but important, things to remember.

Make Sure the Lids on the Cans Containing Paints Are On Tightly

You don't want a spill in the trunk of your car. If you cannot close the lid properly, and the can still has liquid paint in it, you may want to put it in a box which won't tip over, or secure it in the trunk so that it can't be overturned and leak.

Don't Leave the Paint Cans in the Trunk for a Long Period of Time...

...particularly if it's a sunny or hot day. This could cause the solvent in the alkyd paint to evaporate and, for both alkyd and latex, prolonged exposure to heat could cause a pressure build-up in the partially full container. It is suggested that you load up the paint in the car and come directly to the collection site.

A few pointers on re-using wash solvent

Store the Dirty Wash Solvent in a Properly Labelled Closed Container

Do this after you have washed your brushes and rollers in paint thinner, mineral spirits, or turpentine. In a few days, the paint particles will settle to the bottom, leaving usable solvent at the top.

Carefully Pour the Clean Solvent into Another Container

Label and seal it, then put it away safely for future use. Reseal the original container and save it for your "Household Hazardous Waste" collection.



Published by:
The Canadian Paint and Coatings Association
9900 Cavendish Boulevard, Suite 103
Montreal, Quebec, Canada H4M 2V2
Telephone (514) 745-2611



RECYCLED
PAPER

Lorsque vous achetez ou utilisez de la peinture, n'oubliez pas...

BUD



Bien acheter, c'est acheter seulement ce dont on a besoin

Utilisez toute la peinture achetée

Départissez-vous des restants d'une façon propre et sécuritaire

Besoin de peinture? Sachez que vous effectuez une dépense inutile en achetant plus de peinture que nécessaire. Par la suite, l'élimination des restants devient un problème. Faites-vous une faveur, ainsi qu'à l'environnement, en ne vous procurant que la quantité requise pour vos besoins. Demandez à votre marchand de peinture de vous conseiller.

Utilisez toute la quantité de peinture que vous achetez. Une application supplémentaire accroît le degré de protection. Vous pouvez également offrir la peinture non-utilisée à un voisin qui n'aurait qu'une petite surface à couvrir.

Danger! Ne jetez jamais les restants de peinture à l'égout. Conservez-les jusqu'au jour de la collecte de «déchets domestiques dangereux» de votre municipalité ou, si celle-ci dispose d'un centre permanent de collecte à cette fin, apportez-les à cet endroit. Il est possible de recycler les peintures et leurs contenants lorsqu'ils ont été adéquatement ramassés. Informez-vous auprès du bureau gouvernemental de votre localité ou auprès de votre municipalité pour obtenir de plus amples renseignements.

Quelques conseils sur la façon de préparer les restants de peinture pour le recyclage

Les contenants vides

Une fois le contenant de peinture vide, laissez-le sécher en enlevant le couvercle. Conservez le contenant hors de la portée des enfants et des animaux, dans un espace bien aéré. Les contenants secs sont plus faciles à manipuler au moment du recyclage.

Ne pas mettre d'huiles ou d'autres déchets dans les peintures ou leurs contenants

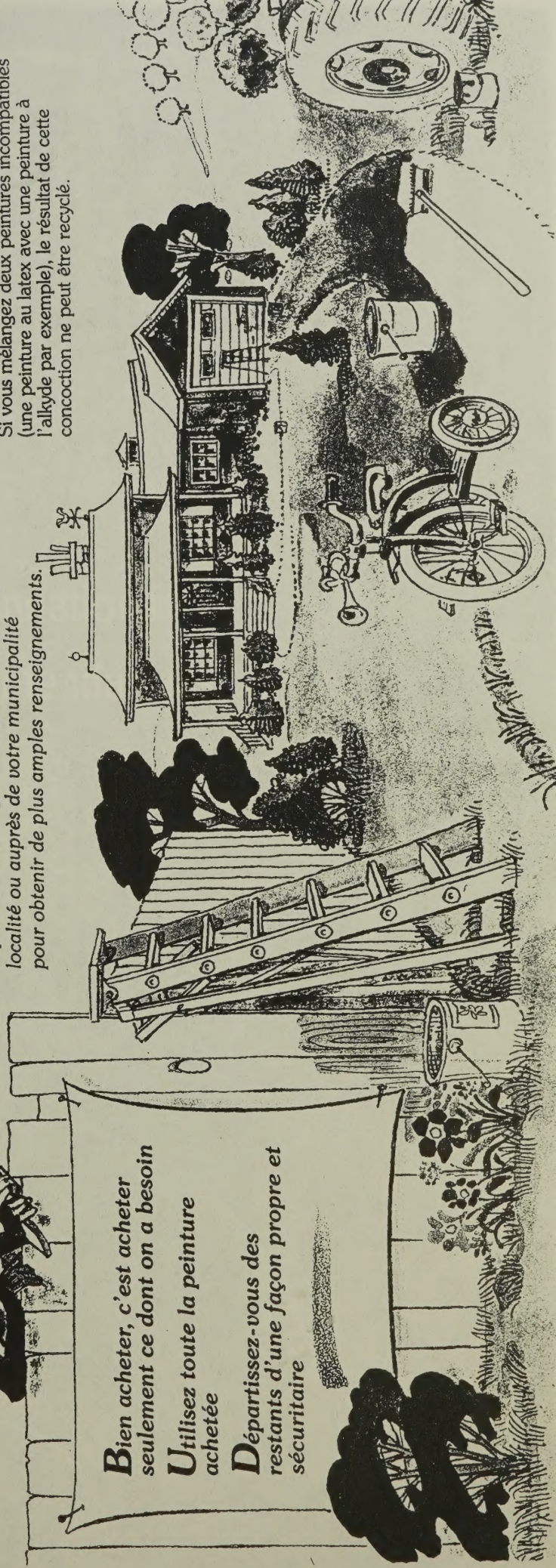
Une telle façon de faire compliquera beaucoup le processus de recyclage, quitte même à le rendre tout à fait impossible.

Ne pas enlever l'étiquette

Il est plus facile de recycler la peinture si l'étiquette est toujours sur le contenant.

Ne mélangez pas les restants de peinture

Si vous mélangez deux peintures incompatibles (une peinture au latex avec une peinture à l'alkyde par exemple), le résultat de cette concoction ne peut être recyclé.



Quelques précautions à prendre au moment d'apporter ses restants de peinture

Lorsque vous apportez vos résidus de peinture, certaines choses simples, mais essentielles, doivent être gardées à l'esprit.

Veillez à ce que les contenants soient hermétiquement fermés

Ce serait dommage de salir le coffre de votre voiture. Si vous avez de la difficulté à bien ajuster le couvercle, et que le contenant renferme de la peinture à l'état liquide, vous devriez le placer dans une boîte qui ne se renversera pas, ou mettre le contenant dans votre coffre de manière à éviter qu'il ne renverse et ne dégoutte.

Ne laissez pas les contenants de peinture dans le coffre de votre voiture pour une longue période

...spécialement par une journée chaude et ensoleillée. Ceci pourrait causer l'évaporation du solvant dans la peinture à l'alkyde et, d'autre part, une exposition prolongée à la chaleur pourrait faire monter la pression dans les contenants partiellement remplis de peinture à l'alkyde ou au latex. Il est conseillé de se rendre directement au site de collecte après le chargement de la peinture.

Quelques conseils sur la façon de réutiliser les solvants de nettoyage

Conservez les solvants dans des contenants hermétiques clairement identifiés

Procédez de la sorte après avoir nettoyé vos pinceaux et vos rouleaux avec du diluant à peinture, de l'essence minérale ou de la térébenthine. Après quelques jours, les particules de peinture se seront déposées au fond du contenant, laissant le solvant réutilisable en surface.

Versez soigneusement le solvant ainsi épuré dans un autre contenant

Étiquetez-le et fermez-le hermétiquement; il suffit ensuite de le conserver pour une utilisation ultérieure. Refermez le contenant initial et gardez-le jusqu'au jour de la collecte des «déchets domestiques dangereux».



Publié par: L'Association canadienne de l'industrie de la peinture et du revêtement
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Eaton® Truck Components

EATON

Synthetic Lubricant Benefits

Drive Axle Lubrication Recommendations

Transmission Lubrication Recommendations



Synthetic Lubricant Benefits

1

The bottom line benefit for using synthetic lubricants is saving money. And here are four ways this can happen.

You save money on lube.

Synthetic lubricants can last up to five times longer than mineral-based products. Currently, with mineral-based lubricants, recommended change intervals are every 50,000 miles for transmissions and 100,000 miles for drive axles. With synthetic lubricants, you only change lube every 250,000 miles, a distance equal to 10 times around the world!

Using synthetic lubricants, you will be eliminating the expense of four transmission lube changes and three drive axle lube changes. That means you'll save hundreds of dollars per truck on lube and lube changes, while practicing effective lube maintenance to minimize downtime. Here's how to calculate your savings.

The cost of an initial fill with synthetic lubricant vs. mineral-based

	Mineral	Synthetic Lubricant
Transmission lubricant: 3.1 gallons x (cost/gallon) +	\$ 12	\$ 32
Labor cost to change lubricant: 1 hour x \$38/hour =	38	38
Total cost for transmission lubricant =	\$ 50	\$ 70
Axle lubricant: 9.75 gallons x (cost/gallon) =	\$ 37	\$ 99
Labor cost to change lubricant: 1 hour x \$38/hour =	38	38
Total cost for axle lubricant =	\$ 75	\$137

Cost difference of mineral-based vs synthetic lubricant

	INITIAL FILL*	50	100	150	200	250	300	350	400	450	500,000 MILES
Axle											
Mineral	75		75		75		75		75		\$450
Eaton Roadranger Lubricant	137					137					\$274
Transmission											
Mineral	50	50	50	50	50	50	50	50	50	50	\$550
Eaton Roadranger Lubricant	70					70					\$140

These figures, based on industry averages, show how the savings add up. When you run 250,000 miles you save \$111. After 500,000 miles you'll save \$586 on lube alone.

*When Eaton Roadranger Lubricant is used.
Does not represent "0" truck miles

Synthetic Lubricant Benefits

2

You save money on fuel.

When you use synthetic lubricants, your transmissions and drive axles develop less friction. And less friction converts directly to improved fuel economy.

In Chart I, you can see what happens when synthetic lubricants were compared to mineral-based lubricants in dynamometer testing and in actual over-the-road operations.

Depending on test conditions and the number of vehicle miles traveled, fuel savings ranged from slightly less than 1% to an

impressive 5%.

Based on these test results, it is reasonable to assume that you can achieve at least a 1% improvement in fuel economy using synthetic lubricants. Chart II shows the impact of a 1% savings on fuel consumption and expense per vehicle.

While it may be difficult to believe that you can save this much just by switching to synthetic lubricants, the fact is that many fleets are changing over right now.

Dynamometer and road testing of synthetic lubricant fuel efficiency*

NEW 0.8%

168,000 miles 2.6%

253,000 miles 3.3%

Winter Operation 5.0%

Impact of 1% fuel savings on fuel volume and expense per vehicle

Gallons Consumed

Miles Traveled	Mineral-based	Synthetic Lubricant	Est. Savings @ \$1/gal.
100,000	20,000	19,800	\$ 200
200,000	40,000	39,600	400
300,000	60,000	59,400	600
400,000	80,000	79,200	800
500,000	100,000	99,000	1000

**Based on tests run by RCCC, ALI and the Canadian Forest Service*

Special Note:

Using synthetic lubricants can extend your warranty.

Following a decade of extensive development and testing on synthetic lubricants, Eaton is increasing the available warranty coverage for Eaton components filled and maintained with an Eaton-approved synthetic lube. Since synthetics have proven to enhance a component's performance and service life, use of an Eaton-approved synthetic entitles you to

extend warranty options on selected axles and transmissions for up to 7 years/750,000 miles. Approved lubes are available from a large number of suppliers located throughout North America.

Call 1-800 TCM-HELP for the location of the supplier nearest you.

Synthetic Lubricant Benefits

3

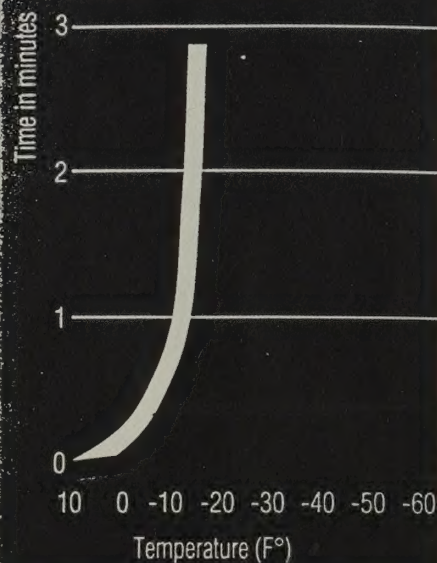
You save money on reduced downtime.

Because synthetic lubricants run cooler than mineral-based lubricants, downtime due to component damage is minimized.

An intensive 32 day test demonstrated that mineral-based lubricants, operating at the high temperatures to which today's components are being subjected, developed high acid levels which caused excessive oxidation. The oxidation process deposits a crusty film throughout affected components, increasing operating temperatures and reducing efficiency. Tests showed synthetic lubricants to resist the formation of deposits due to their superior thermal capabilities.

An added benefit of using synthetic lubricants is that they have demonstrated superior performance at extreme temperatures. Compared to the flow time of mineral-based lubricants, Eaton synthetic lube flows freely at temperatures as low as 40 degrees below zero.

Low Temperature Axle Test — Flow Time



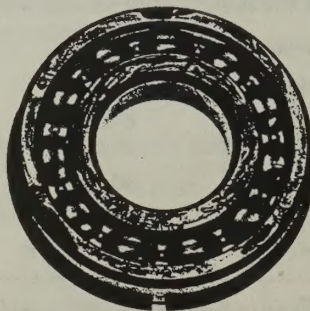
MINERAL-BASED GEAR OIL
SYNTHETIC GEAR LUBRICANT

Auxiliary Countershaft Rear Bearings



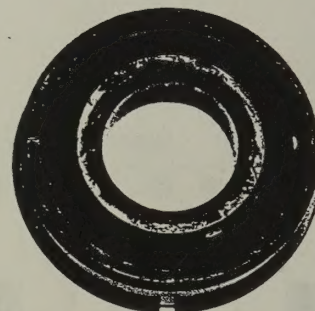
Synthetic Lubricant

Internal debris and deposits pose problems during transmission operation. Accumulation as shown on these parts may lead to premature



50 wt. Motor Oil

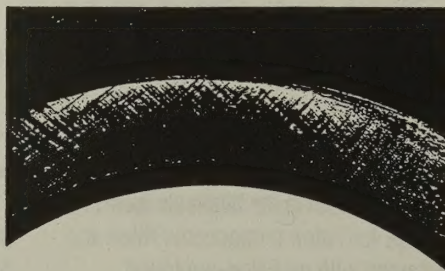
failure. The extent of actual effect during operation may depend upon proper maintenance but the possible result is shortened



Mineral-based Lubricant

transmission life due to excessive oxidation deposits.

Axle Shift Forks



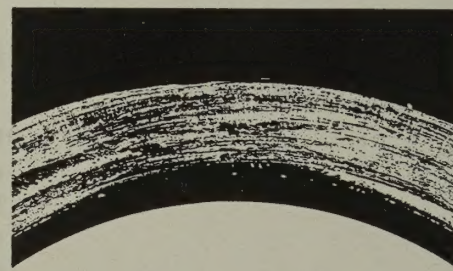
Synthetic Lubricant

The axle components pictured here demonstrate the increased durability benefits of an Eaton-approved synthetic lubricant.

Note that the components which ran in a synthetic-based EP gear lubricant show only slight wear at change-out mileage while still

showing the original machining and heat treat coatings on their surfaces.

The comparative axle components, which ran for equivalent mileage in a petroleum-based EP gear lubricant, show signs of major lubricant degradation. Heavy galling and



Mineral-based Lubricant. Note galling and wear.

metal removal are evident on the component wear surfaces.

The only acceptable way to extend lubricant drain intervals for drive axles is by utilizing an Eaton-approved synthetic EP gear lubricant.

Synthetic Lubricant Benefits

You save money on longer
lasting seals.

Even more money can be saved using
synthetic lubricants. Testing has also shown
that synthetic lubes can substantially extend
seal life.

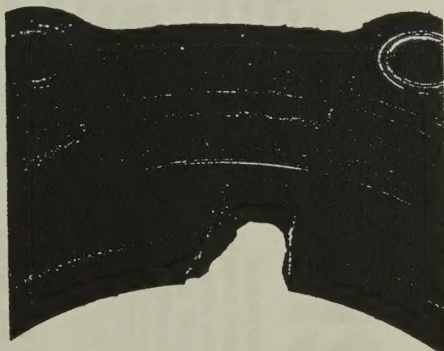
Some lubricants, after extended service,
can actually accumulate carbon deposits on
the oil seal, which deteriorates the sealing
surface. In such cases, surfaces in contact
with the seal may also be damaged or
destroyed. These failures cause the loss of
lubricant and the end result is low lube failure.

Over the long haul, it has been proven that
transmission seals last longer with Eaton
Roadranger CD50 synthetic lubricant. Fleet
records have shown a failure rate of one seal
every 150,000 miles (average) during a
normal maintenance period with mineral-
based lubricants. During the same mainte-
nance period, trucks using Eaton Roadranger
CD50 have shown no evidence of leakage or
lubrication related failure.

4



Synthetic Lubricant



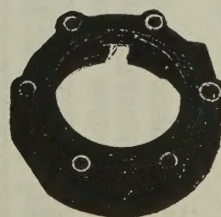
50 wt. Motor Oil



Mineral-based Lubricant



Synthetic Lubricant

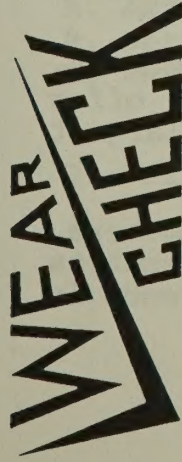


50 wt. Motor Oil



Mineral-based Lubricant

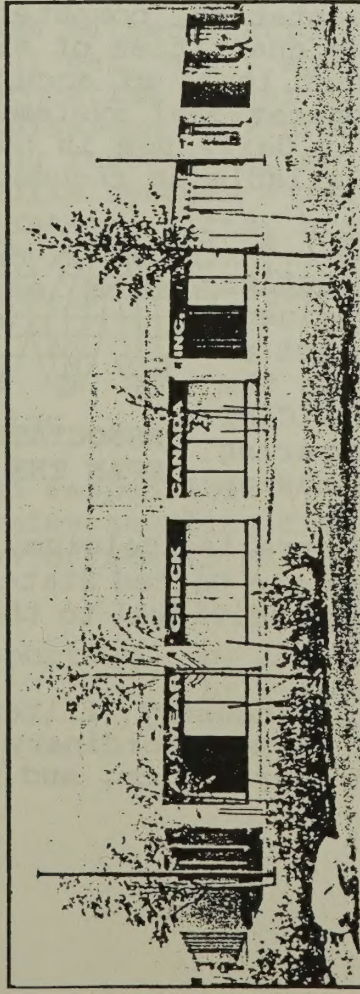
Examine the three rear bearing covers and seals
shown. The bearing cover and seal using
synthetic lubricant (Eaton Roadranger CD50)
are parts which were installed at the time of
manufacture, while the two remaining covers
contain replacement seals indicating repeat
failures.



4161 Sladeview Crescent, Unit 13, Mississauga, Ontario L5L 5R3

1-800-268-2131
1-416-569-8600
Fax 1-416-569-8605

Canada Inc.



Wear Check Canada Inc. was established in 1967 as a full service analytical laboratory, specializing in trendline oil analysis of all types of lubricating and hydraulic oils for the mining, manufacturing, forestry and transportation industries. Using modern technology, the most up-to-date equipment and the latest test methods and procedures, Wear Check's low cost and customized analytical programs are widely used by industry to augment preventative maintenance programs on all types of equipment and components.

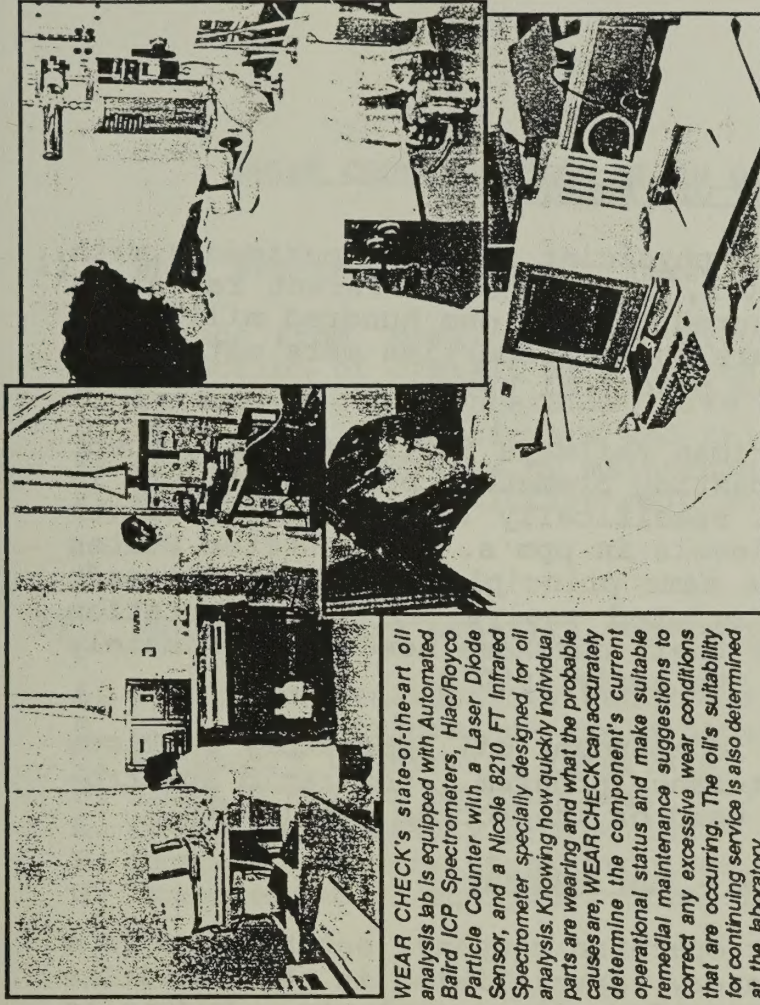
WEAR CHECK OIL ANALYSIS

Maximize Your Equipment and Component Life

Reduce Maintenance and Maintenance Expenses

The primary goals of WEAR CHECK's trendline oil analysis programs are to MAXIMIZE equipment and component life and MINIMIZE operating and maintenance expenses, using analysis of lubricating and hydraulic used oil samples taken at pre-determined, periodic intervals by:

- ✓ Comparing test results from samples to the established, normal "trend rates" at which metals wear off component moving parts under specific operating conditions and environments.
- ✓ Providing EARLY DETECTION of increasing wear metal "trends" BEFORE significant damage or component FAILURE occurs!
- ✓ Determining the rate of depletion of the additive package in the lubricating oil and the continued service-ability of the oil.
- ✓ Suggesting the proper maintenance procedures needed to correct increasing wear metal trends, and oil degradation.



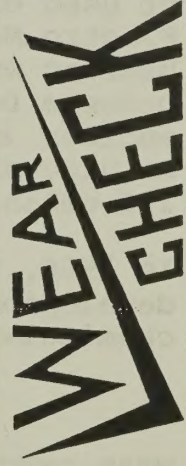
WEAR CHECK's state-of-the-art oil analysis lab is equipped with Automated Balrd ICP Spectrometers, Hiac/Royco Particle Counter with a Laser Diode Sensor, and a Nicole 8210 FT Infrared Spectrometer specially designed for oil analysis. Knowing how quickly individual parts are wearing and what the probable causes are, WEAR CHECK can accurately determine the component's current operational status and make suitable remedial maintenance suggestions to correct any excessive wear conditions that are occurring. The oil's suitability for continuing service is also determined at the laboratory.

Contact Wear Check For All Your Oil Analysis Needs

WEAR CHECK is currently serving major mining, forestry and trucking companies as well as airlines, major oil companies and numerous government agencies. We also specialize in warranty work for manufacturers. If you want to maximize your equipment and component life, contact Wear Check today!

✓ Wear Check's Rapid and Efficient Turnaround Service

Oil samples are shipped collect via Purolator Courier overnight from anywhere in Canada, processed the same day as received at the laboratory and reports returned by mail. Severe conditions are reported instantly by Telephone, by Fax from the analyst's screen, or by Electronic Data Interchange using a telephone modem directly from our computer to yours.



1-800-268-2131
1-416-569-8600
Fax 1-416-569-8605

Canada Inc.

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HISTORY OF OIL ANALYSIS

Anders Jonas Angstrom a Swedish physicist in his experiments with spectroscopy, during the 1800's, identified different radiation wavelengths of light, and measured them at one hundred millionths of a centimetre. For many years these properties were matters of scientific interest with little practical use.

In the late 1940's, North American railways initiated the concept of used oil analysis for forecasting premature bearing failure in Electro Motive Diesel engines, specifically looking at the silver bearing wear and contaminant levels in ppm's. The United States Defense Department applied the same principles to their aircraft engines and subsequently, stimulated analytical instrumentation manufacturers to producing for their purchase needs approximately 100 emission spectrometers in the early 1950's.

In 1966, **WEAR CHECK** pioneered independent oil laboratory services developing an industrial maintenance program, for rapid spectrochemical-physical analysis of used or in-process lubricants.

Wear Check - The Company

WEAR CHECK is a Canadian owner-operated company, established as a full service analytical laboratory, specializing in the trendline analyses, of all types of lubricating oils, coolants, hydraulic fluids and filters. Our Mississauga laboratory utilizes the most highly sophisticated analytical instrumentation, computer systems and software available, to process large quantities of samples at the fastest turn-around time, and highest level of accuracy. We have installed, independent and fully operational systems as back up for each analysis equipment system in daily use in our lab. A detailed listing of our equipment is available on request.

WEAR CHECK is a founding member of **S.O.A.L.A.**, the Spectrographic Oil Analysis Laboratories Association made up of a group of prominent world- wide independent laboratories to act as a regulatory body. We participate in the Alberta Research Council's, **USED LUBRICANT EXCHANGE PROGRAM**. A testing body, comparing test results from more than twenty Canadian laboratories on a confidential basis.

WEAR CHECK associated laboratories in Australia, Belgium, Germany, South Africa, Spain, United Kingdom, and the United States, offer consistent service for any size customer, individual to the largest multinational organizations.



**ASSOCIATED LABS
SPAN THE GLOBE**

Original equipment manufacturers, the oil industry, filter makers, and end users, are now able to obtain the extraordinary benefits of monitoring equipment condition, oil degradation, and trends in wear through oil analysis.

BASIC CONSIDERATION OF AN OIL ANALYSIS PROGRAM

1) What are the program's primary objectives?

- A. Change from "breakdown" to "preventive" maintenance.
- B. Reduction of overall maintenance costs.
- C. Extension of the operating life of equipment.
- D. Evaluation of lubricants and filters in service.
- E. Provide an overview of maintenance practices.
- F. Management of predictive maintenance systems

2) What secondary benefits complement the primary?

- A. Equipment availability assurance.
- B. Equipment performance evaluation.
- C. Extension of service intervals.
- D. Identification of sabotage.
- E. Component warranty protection.
- F. Tracking of persistent problems.
- G. Enhancement of equipment trade in value.

3) Equipment where oil analysis is beneficial.

- A. Engines either stationary or mobile, gasoline, diesel or natural gas, heavy equipment, automotive, marine as well as reciprocating or jet aircraft.
- B. Transmissions, differentials, gearboxes, final drives, fans, bearing reservoirs, etc.
- C. Hydraulic systems - industrial or mobile, loaders, graders, man baskets, lifts, brakes, compressors, etc.
- D. Industrial machinery, moulding equipment, presses, fans, cutters, forming equipment, robotics, etc.

4) Sampling

- A. Assign responsibility (train to assure sample integrity)
- B. Determine sampling frequency and intervals.
- C. Method of sample extraction - during drain
 - gauge plugs and probalizers
 - sampling pumps (all systems)
- D. Transporting - by 1st class mail
 - by Purolator Courier (next day delivery)

THE INFORMATION SHEET

Customer File Stub

WC 104396

Unit or Vehicle Number

Date Mailed

Inquiries: 1-800-268-2131 / 416-569-8600

Wear Check sample mailers will be replaced with unused mailers if defective in manufacture, labeling, or packaging, or if lost by us or any associate company even though by negligence or other fault.

Wear Check shall not be liable or responsible for the future performance or failure of any engine, piece of equipment or material involved in any test or sample. The Company makes no warranties, representations or guarantees with respect to the performance of any such engine, piece of equipment or material.

**WEAR
CHECK**

Canada Inc.

4161 Sladeview Cresent, Unit 13
Mississauga, Ontario L5L 5R3
800/268-2131 416/569-8600
FAX: 416/569-8605

**Engine/Transmission
Fleet/Industrial
Information Form**

LAB NUMBER

RETURN REPORT TO: (PLEASE PRINT OR TYPE)

COMPANY NAME

ADDRESS

CITY

CONTACT:

UNIT PREVIOUSLY SAMPLED? (CIRCLE ONE) YES / ☒ NO

IF YES, COMPUTER CODE FROM PREVIOUS REPORT IS

CUSTOMER NAME

123 ANY STREET

ANY TOWN

PROV. ANY

CODE AIA 1A1

SERVICE MGR

AREA CODE (SIS)

PHONE # 555-1212

555-1000

NOTE: FAILURE TO COMPLETE INFORMATION MAY RESULT IN DIAGNOSTIC DELAYS.

UNIT OR VEHICLE NUMBER:

PLEASE CIRCLE ONE OF THE FOLLOWING. . . SAMPLE TAKEN FROM:

☒ ENGINE / ☐ TRANSMISSION / ☐ DIFFERENTIAL / ☐ FINAL DRIVE / ☐ PLANETARY / ☐ TORQUE CONVERTER /
☐ REDUCTION GEAR / ☐ AIR COMPRESSOR / ☐ BEARING RESERVOIR / ☐ FAN / ☐ CIRCULATING OIL / ☐ TURBINE /
☐ NEW (UNUSED) OIL / ☐ OTHER

LOCATION: (CIRCLE ONE) ☒ FRONT / ☐ REAR / ☐ LEFT / ☐ RIGHT

FUEL USED: (CIRCLE ONE) ☒ DIESEL / ☐ GASOLINE / ☐ NATURAL GAS / ☐ OTHER

UNIT MAKE

CATERPILLAR

UNIT MODEL #

3406B

SYSTEM OIL CAPACITY

48 L

BRAND/TYPE OIL

ESSO

OIL CONSUMPTION

— PER —

OIL VISCOSITY

15W40

COMMENTS

ROUTINE SAMPLE

DATE SAMPLE TAKEN

12, 19, 89

WC 104396

THE BELOW DATA IS BASED ON: (CIRCLE ONE) MILES / KILOMETERS / HOURS

TOTAL SYSTEM TIME

1100

TIME ON OIL

300

TIME ON FILTER

300

TIME SINCE OVERHAUL

OIL DRAINED WHEN SAMPLE TAKEN? (CIRCLE ONE) YES / ☒ NO

SAMPLING INSTRUCTIONS AND PRECAUTIONS

For best results, we suggest the following precautions when taking the sample.

INSTRUCTIONS FOR TAKING SAMPLE — The sample should be taken NOT MORE THAN 30 MINUTES after shutdown, and the oil should have been in service for at least 10 hours or 500 miles, before the oil can accurately reflect wear conditions.

AVOID CONTAMINATION OF THE SAMPLE — Clean around the drain plug before draining. Remove the drain plug, and when about half the oil has run out, catch the sample by inserting the bottle into the oil stream. The bottle should be at least ¾ filled.

Do not remove the bottle cap until you are ready to take the sample, and recap the bottle immediately after filling. Take care not to confuse samples from different units.

Or, remove sample with a suction pump by inserting the siphon tube down the dipstick tube or into the sump/reservoir. The siphon tube must be clean by either replacement or rinsing with a solvent and drying. Do not rinse with gasoline or diesel fuel.

Or, Engines with the Probalzer Mini-Plug, follow the specific instructions pertaining to the sampling device purchased.

First
Sample
From A
Unit.

**Appendix C - New and Forthcoming Provincial
Government Waste Management Regulations**

ML-2

REGULATION TO AMEND
REGULATION 309 OF REVISED REGULATIONS OF ONTARIO, 1980
MADE UNDER THE
ENVIRONMENTAL PROTECTION ACT

1. Section 1 of Regulation 309 of Revised Regulations of Ontario, 1980, as remade by section 1 of Ontario Regulation 322/85 and as amended by section 1 of Ontario Regulation 464/85, section 1 of 460/88, section 1 of Ontario Regulation 138/90, section 1 of Ontario Regulation 162/90 and section 1 of Ontario Regulation 520/90 is further amended by adding the following definition:

"Regional Director" means a Director appointed under section 5 of the Act and responsible for a region established by the Ministry for administrative purposes, but does not mean the Director of the Waste Management Branch of the Ministry or an alternate named by him or her.

2. The Regulation is amended by adding the following sections:

SELECTED WASTE DEPOTS

40.--(1) In sections 40 to 55,

"lubricant" means crankcase oil, gear oil, transmission fluid and hydraulic fluid;

"selected waste depot" means a depot where selected waste is accepted, handled and stored.

(2) For the purposes of sections 40 to 55, the products listed in Column A are selected products and the wastes listed in Column B are selected wastes:

Column A

1. anti-freeze
2. lubricant
3. oil filters

Column B

1. waste anti-freeze
2. waste lubricant
3. waste oil filters

(3) For the purposes of sections 41 to 55, the types of selected product are those listed in Column A of subsection (2) and the types of selected waste are those listed in Column B of subsection (2).

41.--(1) Sections 43 to 55 apply in relation to selected waste depots that have the following characteristics:

1. The depot is at a location at which a business sells goods or services motor vehicles as one of its primary functions.
2. The depot is managed by a person who owns or has the charge, management or control of the business.
3. The depot is set up to accept, handle and store only selected waste of a type that results from a type of selected product regularly sold at the business.

(2) For the purposes of sections 43 to 55, a business and a depot are associated if they have the relationship to each other set out in paragraphs 1, 2 and 3 of subsection (1).

42.--(1) Sections 27, 40 and 41 of the Act do not apply in relation to a selected waste depot that has the characteristics set out in subsection 41(1).

(2) Sections 15, 16 and 18 to 24 of this Regulation do not apply to require reports or manifests in respect of selected waste stored at or removed from a selected waste depot that has the characteristics set out in subsection 41(1).

(3) Sections 27 and 41 of the Act and section 13 of this Regulation do not apply to the transportation of selected waste by the generator of the waste to a selected waste depot that has the characteristics set out in subsection 41(1), unless the generator of the waste is required to submit a report under section 15 of this Regulation in respect of the waste.

43.--(1) Each operator and owner of a selected waste depot shall ensure that no selected waste is accepted at the depot until fifteen days after written notice of intent to operate the depot is given to the Chief Fire Official as defined in section 1.2.1 of Ontario Regulation 67/87 and to the Regional Director responsible for the region in which the depot is located.

(2) The notice of intent to operate a selected waste depot shall include the following information:

1. The address of the depot and the location of the depot at the address.
2. The name under which the business associated with the depot carries on business.
3. The types of selected waste to be accepted at the depot.
4. The size, type and number of storage containers to be used at the depot.

(3) Each operator and owner of a selected waste depot shall notify the Chief Fire Official as defined in Ontario Regulation 67/87 and the Regional Director responsible for the region in which the depot is located of any change in respect of the information submitted under this section, no later than fifteen days before the change occurs.

44. Each operator and owner of a selected waste depot shall ensure, by means of gates, fencing, locks, guards or otherwise, that only people authorized by an operator or owner have access to selected waste at the depot.

45. Each operator and owner of a selected waste depot shall ensure that notice of the days and hours during which selected waste will be accepted at the depot is clearly posted at the depot and shall ensure that selected waste is accepted at the depot only during those days and hours.

46. Each operator and owner of a selected waste depot shall ensure that any selected waste accepted at the depot is deposited forthwith into storage containers at the depot.

47.-(1) Each operator and owner of a selected waste depot shall ensure that each person who accepts, handles, stores or deposits selected waste at the depot is knowledgeable about,

- (a) legislation, regulations and Ministry guidelines relevant to the operation of the depot;
- (b) environmental issues related to the selected waste to be handled at the depot;
- (c) occupational health and safety issues related to the selected waste to be handled at the depot;
- (d) the use and operation of any equipment likely to be used in the safe operation of the depot;

- (e) procedures for dealing with emergencies, including fire and explosion, that might arise at the depot in connection with the selected waste to be handled there; and
- (f) procedures for dealing with spills of selected waste at the depot, including clean-up, disposal and reporting procedures.

(2) Each operator and owner of a selected waste depot shall ensure that each person who accepts, handles, stores or deposits selected waste at the depot is,

- (a) an employee of the business associated with the depot;
- (b) an owner of the business associated with the depot or a person who has the charge, management or control of the business associated with the depot; or
- (c) an employee of a person mentioned in clause (b).

48.-(1) Each operator and owner of a selected waste depot shall take all reasonable steps to ensure that,

- (a) selected waste is only accepted at the depot if it is of a type that results from the type of selected product regularly sold at the business associated with the depot;
- (b) no more than five waste oil filters, no more than twenty-five litres of waste anti-freeze and no more than twenty-five litres of waste lubricant are accepted at the depot from any one person on any one day; and
- (c) selected waste is not accepted at the depot if it is brought to the depot by or on behalf of a generator required to submit a report under subsection 15(1) in respect of the waste.

(2) The taking of all reasonable steps for the purposes of subsection (1) includes ensuring that each person who accepts waste at the depot visually inspects waste before accepting it.

49. Each operator and owner of a selected waste depot shall ensure that each type of selected waste stored at the depot is stored separate from each other type of selected waste, in storage containers and in accordance with the following rules:

1. Each storage container used to store selected waste shall bear a label or other identification that indicates the type of selected waste that it contains.
2. The label or other identification shall include the name and address of the depot.
3. In the case of an underground storage container, the label or other identification may be located on the fill pipe for the container and need not include the name and address of the depot.
4. The information required to be given on a label or other identification shall be set out so that it is clearly visible and legible.
5. Each storage container used to store selected waste shall be stored, handled and maintained so as to prevent leaks or spills of selected waste, damage or deterioration of the container, or any adverse effect.
6. Each storage container used to store selected waste shall be stored in a manner that facilitates the use of fire-fighting equipment and spill containment and clean-up equipment throughout the depot and surrounding area.
7. Each storage container used to store selected waste shall be stored in a manner that facilitates inspection of the depot by a provincial officer.

50.--(1) Each operator and owner of a selected waste depot at which selected waste is stored in an above ground container shall ensure that the depot has a secondary containment system capable of containing leaks or spills of selected waste from the above ground container and capable of preventing the leaks or spills from entering municipal sewers, other drainage systems or the natural environment except air.

(2) In the case of a selected waste depot at which selected waste is stored outdoors in an above ground container the base of which rests on the ground, each operator and owner shall also ensure that the secondary containment system is capable of draining leaks or spills away from the outdoor above ground container.

51.--(1) Each operator and owner of a selected waste depot shall ensure that the depot is equipped with fire-fighting equipment and spill containment and clean-up equipment

appropriate to the quantities and types of waste stored at the depot.

(2) Each operator and owner of a selected waste depot shall ensure that the equipment mentioned in subsection (1) is stored in a way that makes it immediately accessible in the event that it is needed.

52.--(1) Each operator and owner of a selected waste depot shall ensure that the depot is visually inspected for leaks or spills of selected waste at least once during each day on which the business associated with the depot is open for sales or service.

(2) Each operator and owner of a selected waste depot shall ensure that each inspection performed under subsection (1) on a day on which the depot is open to accept waste is performed by a person knowledgeable about the matters set out in clauses 47(1)(a) to (f).

(3) Each operator and owner of a selected waste depot shall ensure that at the time of each inspection under subsection (1) the person performing the inspection legibly records his or her name, the date and the findings of the inspection.

(4) Each operator and owner of a selected waste depot shall ensure that each record made at the depot under subsection (1) is kept at the depot during a period of two years after it is made.

53.--(1) Each operator and owner of a selected waste depot shall ensure that each time selected waste is accepted at the depot, the person accepting the waste legibly records his or her name, the date, the name and address of the person who brought the waste to the depot and the type and approximate quantity of the waste.

(2) Each operator and owner of a selected waste depot shall ensure that each record made at the depot under subsection (1) is kept at the depot during a period of two years after it is made.

54.--(1) Each operator and owner of a selected waste depot shall ensure that no selected waste is accepted at the depot unless there is in effect one or more written agreements each of which meets the requirements of subsections (2) and (3) and that together provide for the ongoing removal of all selected waste from the depot.

(2) An agreement under subsection (1) shall be between an operator or owner of the depot and a party to whom a certificate of approval or provisional certificate of approval has been issued under Part V of the Act authorizing the party to transport one or more classes of waste that include the type or types of

selected waste to be removed from the depot by the party under the agreement.

(3) An agreement under subsection (1) shall state the following:

1. The name and address of an owner or operator of the depot.
2. The name and address of the party responsible for removing waste, the type of selected waste to be removed by the party and the number of the certificate of approval or provisional certificate of approval that authorizes the party to transport the type of waste.
3. The name, address and telephone number of an individual able to answer questions about the implementation of the agreement on behalf of the party responsible for removing the waste.
4. The approximate time intervals at which the party responsible for removing the waste will remove the waste.
5. The expiration date of the agreement.

(4) Each operator and owner of a selected waste depot shall ensure that selected waste is removed from the depot only by a party to an agreement under subsection (1) to whom a certificate of approval or provisional certificate of approval has been issued authorizing the removal of the waste.

(5) Each operator and owner of a selected waste depot shall ensure that a copy of an agreement under subsection (1) is kept at the depot during the term of the agreement and during a period of two years after the termination or expiration of the agreement.

55.-(1) Each operator and owner of a selected waste depot shall ensure that all selected waste is removed from the depot no later than ninety days after the depot ceases to be open to accept selected waste.

(2) Each operator and owner of a selected waste depot shall ensure that written notice is given to the Chief Fire Official as defined in section 1.2.1 of Ontario Regulation 67/87 and to the Regional Director responsible for the region in which the depot is located no later than ninety-five days after the depot ceases to be open to accept selected waste.

(3) The notice under subsection (2) shall include the following information:

1. The address of the depot and the location of the depot at the address.
2. The date on which the depot ceased being open to accept selected waste.
3. A statement that all selected waste has been removed from the depot.

(4) Each operator and owner of a selected waste depot shall ensure that any documents required under sections 52 to 54 to be kept at the depot on the date referred to in paragraph 2 of subsection (3) are available to provincial officers for inspection at an address in Ontario during a period of two years after that date.

(5) Each operator and owner of a selected waste depot shall ensure that the Chief Fire Official as defined in section 1.2.1 of Ontario Regulation 67/87 and the Regional Director responsible for the region in which the depot is located are given timely written notice of the address referred to in subsection (4).

56. In the event of conflict between sections 40 to 55 and the provisions of Regulation 439 of Revised Regulations of Ontario, 1980 or Ontario Regulation 67/87, the provisions of Regulation 439 of Revised Regulations of Ontario, 1980 and Ontario Regulation 67/87 prevail.

REDUCE

REUSE

RECYCLE

RECEIVED

JUN 29 1992

R. CAVE & ASSOCIATES LTD.

A STRATEGY FOR THE DEVELOPMENT OF NEW BIOMEDICAL WASTE MANAGEMENT FACILITIES IN ONTARIO

JUNE 1992

Prepared by:

The Ministry of the Environment

The Ministry of Health

The Ontario Hospital Association



Ontario

Environment
Environnement

Ministry of Health
 Ontario



AN INVITATION TO COMMENT

Interested individuals and groups are invited to comment on these proposals by making written submissions to the Waste Management Branch of the Ministry of the Environment. Waste Management Branch staff are also available to present and discuss these proposals at the invitation of interested groups. Comments and invitations may be sent to:

Biomedical Waste Strategy
Waste Management Branch
Ministry of the Environment
135 St. Clair Avenue West
Toronto, Ontario, M4V 1P5

Additional copies of this document may be obtained by contacting:

Ministry of the Environment
Public Information Centre
135 St. Clair Avenue West
Toronto, Ontario M4V 1P5

(416) 323-4321
1-800-565-4923

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1.0

INTRODUCTION

Managing biomedical waste in an environmentally and economically responsible fashion is an important issue facing Ontario today. The province's present lack of self-sufficiency in managing its biomedical waste, and the need to develop new disposal facilities, for the use of Ontario hospitals and other waste generators, are areas of concern that must be addressed. The Ministry of the Environment (MOE) and the Ministry of Health (MOH), in co-operation with the Ontario Hospital Association (OHA), have developed this strategy to address these areas of concern.

The following principles have been used to develop this strategy:

- Ontario should become self-sufficient in the management of its biomedical waste;
- new regional biomedical waste management facilities will be constructed and operated in the most cost effective manner, recognizing the financial constraints on the health care system;
- only biomedical and pharmaceutical wastes will be treated / disposed of in these new regional facilities;
- non-incineration technologies are to be used for the treatment of non-anatomical wastes where technically and economically feasible;
- incineration is to be used for anatomical and pharmaceutical wastes or where non-incineration technologies are not technically or economically feasible; and
- existing biomedical waste incinerators lacking best available air pollution control will be phased out as new regional facilities become operational.

2.0

BACKGROUND

The provision of human and animal health care and the associated activities of teaching, research, clinical and biological testing, as well as post-mortem care generates a unique waste stream commonly

*Medical
Wastes*

referred to as medical wastes. It is estimated that Ontario generates approximately 150,000 tonnes of medical wastes annually. The majority (90 percent) of medical wastes are not hazardous and require no special handling prior to disposal in municipal solid waste landfills.

*Biomedical
Wastes*

Less than ten percent (ie. 10,000 - 15,000 tonnes) of all medical wastes are considered to be hazardous enough to require special handling and treatment prior to disposal. These wastes, commonly referred to as "biomedical" wastes, include human anatomical wastes, infectious animal wastes, microbiological wastes, human fluid blood and blood products, sharps (needles, blades etc.), and wastes from patients with highly communicable diseases. Hospitals generate approximately 60 percent of biomedical wastes while other smaller generators such as laboratories, clinics, doctors, and dentists comprise the remainder.

*Cost Effective
Solution*

Biomedical wastes are primarily generated by publically funded health care activities. The health care system in Ontario is increasingly under tight financial constraints. Any new biomedical waste disposal infrastructure must be designed to control the costs for public sector waste generators.

3R's

Where feasible, waste reduction, reuse and recycling programs should be applied to solid non-hazardous refuse generated in health care facilities. An Initiatives Paper entitled, "Regulatory Measures to Achieve Ontario's Waste Reduction Targets", dated October 1991, has previously been released for public discussion and details proposed 3R's targets and initiatives for the institutional sector which includes health care facilities. The regional strategy proposed in this paper addresses only the biomedical waste component where the application of waste reduction, reuse and recycling programs is limited due to public health considerations.

*Self-
Sufficiency*

Ontario's overall waste strategy supports self-sufficiency in the management of waste. The current export of 60 percent of Ontario's biomedical waste to Quebec and the USA for disposal is not consistent with the strategy. Ontario needs to develop sufficient treatment and disposal infrastructure to achieve self-sufficiency in biomedical waste management.

The remaining 40 percent of Ontario's biomedical waste is burned in approximately 100 hospital incinerators across the province. Although the existing incinerators operate in accordance with the current air pollution regulations, these facilities lack modern air pollution control devices and as a result, there are environmental and public health

*State of
Existing
Facilities*

concerns regarding their continued operation. These incinerators rely on the dilution of pollutants rather than control at the bottom of the stack. The number of operating hospital incinerators is decreasing steadily as facilities are shut down voluntarily by hospitals or by request from the Ministry of Labour (MOL) or MOE. In many cases facilities are also used for the incineration of solid non-hazardous refuse generated in hospitals. While the existing hospital incinerators were designed for the disposal of both biomedical and general waste, this proposed strategy phases out existing incinerators when new facilities become operational. New facilities will not be permitted to burn solid non-hazardous refuse. This is consistent with MOE's ban on all future municipal solid waste incinerators announced in April, 1991.

*Existing
Disposal
Technologies*

Traditionally, the primary method of biomedical waste disposal has been incineration. Incineration is currently the only technology which has been approved by MOE for large regional biomedical waste management facilities. Although autoclaves are currently used to treat biomedical wastes at a few individual hospitals, the technology has not yet been approved for use in Ontario to treat larger quantities of waste in a regional facility.

*Non-
Incineration
Disposal
Technologies*

Non-incineration technologies for biomedical waste treatment such as the autoclave, microwave, and shredding / disinfection (Hammermill) process have been developed and are being used in other jurisdictions in response to increased public concern with biomedical waste incineration. The Hammermill technology was recently tested by the Hospital Council of Metropolitan Toronto. This technology shreds and grinds biomedical waste to a granular size and simultaneously disinfects it with a dilute form of sodium hypochlorite (bleach). The autoclave process sterilizes waste in a vessel using saturated steam under pressure. The microwave process employs pre-shredding prior to the use of microwaves to thermally disinfect the waste. All these non-incineration technologies render the waste into a form acceptable for landfill disposal. These non-incineration technologies may be more cost-effective and environmentally acceptable alternatives. The MOE, MOH and OHA are currently assessing the available testing data on these new technologies and will develop performance and operating criteria for use in approving these new non-incineration technologies. The results of the Hammermill test undertaken by the Hospital Council of Metropolitan Toronto will be used in the development of criteria for shredding / disinfection technologies. Performance and operating criteria will be finalized by MOE, MOH and OHA before the implementation of this strategy.

*Biomedical
Waste*

Currently biomedical waste is referred to as "pathological" waste in Ontario Regulation 309, under the Environmental Protection Act. This definition is not clear or precise in defining the waste stream, and is difficult to interpret and enforce. Biomedical waste generators have difficulty distinguishing which materials from health care facilities are regulated. This lack of clarity has resulted in wide-ranging definition interpretations and waste segregation practices throughout Ontario. A new biomedical waste definition has been prepared by MOE and is presented for review and comment (see 3.4).

3.0

PROPOSALS

The following proposals have been jointly developed by MOE, MOH and OHA to facilitate the development of an environmentally sound and cost effective biomedical waste management system in Ontario.

3.1

New Facilities

*Regional
Facilities*

It is the position of the Ministry of Health and the Ontario Hospital Association that regional facilities offer a more cost-effective solution for biomedical waste disposal. On-site facilities in individual hospitals is now cost prohibitive. It is proposed that new facilities be shared regionally by hospitals and all other generators of biomedical waste. Disposal facilities should not rely solely on incineration and should employ a mix of technologies in the treatment of biomedical waste. The use of one central disposal facility for the Province is not preferred since biomedical wastes should be managed and disposed close to their point of generation.

*Regional
Biomedical
Waste
Management
Plan*

It is proposed that hospitals, as the primary waste generator, undertake a planning process in each regional area (Figure 1) with the objective of developing a biomedical waste management plan for the region. A regional planning committee comprised of hospital representatives and other stakeholders would be formed to develop the plan (see 3.2). This plan would include a proposal for the development of a biomedical waste treatment / disposal facility in each region. The necessary waste collection and transportation infrastructure requirements would also be outlined as part of the plan.

Many hospital administrators in Ontario feel that hospital owned and operated facilities are the most cost effective solution to dispose of biomedical waste. Other hospital administrators feel that hospitals should not be in the waste management business. All agree that

*Private
vs. Public
Sector
Operated
Facilities*

biomedical waste disposal must be operated in a cost-effective manner recognizing the funding constraints and limited resources available in the health care system. The protection and control of costs for biomedical waste disposal are of primary concern in establishing new facilities. The private sector is invited to express their views and ideas on how privately owned and operated facilities and waste transportation systems could be established which are cognizant of these public funding constraints.

*Terms
of
Reference*

Specific terms of reference will be provided by MOH, MOE and the OHA, for the regional planning committees to use throughout the planning process. These terms of reference are described in Section 3.3.

Funding

This discussion paper challenges stakeholders to put forward creative options for establishing regional biomedical waste management facilities and transportation systems which are cognizant of public funding constraints. Currently, MOH has the authority to fund 100 percent of capital costs related to hospital owned incinerators. MOH will review its funding policies in light of comments and proposals put forward during the public consultation. Funding will be made available to the regional planning committees for costs associated with developing the regional plans (consultants, public meetings, etc.).

3.2

Planning Process

*Public
Consultation*

Public consultation has been identified as a key requirement for the development and implementation of this strategy. The planning process will provide a means for the concerns, needs, and values of others to be identified in advance of any decision to establish a biomedical waste management facility.

*Regional
Planning
Committees*

The regional biomedical waste management plan is to be developed by a committee comprised of representatives of the key generators of the biomedical waste stream. The province has been divided into 6 planning regions (Figure 1, based on the MOH planning regions), thus 6 regional committees will undertake the planning of biomedical waste facilities.

*Committee
Structure*

Hospitals as principal generators of the waste stream will chair the committees and lead the planning process. Non-hospital waste generators and local municipal / regional governments and the public are proposed to be represented on the planning committees. The MOH, MOE and OHA will participate in an advisory capacity on the regional

*Public
Comments on
Committee
Structure*

planning committees. Comments on the structure, membership and nomination of members on the regional planning committees are invited as part of these proposals.

*Public
Meetings*

It is proposed that the regional planning committee would be responsible for initiating and chairing at least two public meetings. The first public meeting would be held at the outset of the planning process after the formation of the committee. The purpose of the meeting would be to introduce the public to the regional planning process and to outline how the planning process will be carried out in each region. At the conclusion of the planning process the planning committee would hold a second public meeting where the committee recommendations would be presented to the public.

3.3

Regional Planning Committee Terms of Reference

The terms of reference and committee budget would be provided to the regional planning committee by MOH, MOE and the OHA. A document outlining the final terms of reference will be prepared by MOH, MOE and the OHA after receiving and considering public comments on the overall proposal. The terms of reference would mandate the committee to develop a plan according to specific terms. The following planning principles and terms are proposed:

- (i) use of non-incineration technologies for non-anatomical wastes where technically and economically feasible;
- (ii) use of incineration technology for anatomical, pharmaceutical and microbiological laboratory wastes which present a significant biological hazard;
- (iii) use of on-site non-incineration treatment may be considered as an option for an individual hospital if economically justified and supported by the committee;
- (iv) non-hazardous hospital wastes (general refuse) are not to be disposed of in the new facilities;

- (v) development of a plan for waste collection and transportation to the regional facility;
- (vi) a workforce impact and adjustment planning analysis;
- (vii) evaluation of the options for facility ownership and operation and, a cost / benefit analyses for each option considered;
- (viii) a technical / environmental analysis of the options considered;
- (ix) a plan for the phase-out of existing biomedical waste incinerators with no air pollution control technology ; and
- (x) a public consultation program as outlined in this strategy.

Based on the needs of the region, the planning committee is to carry out a technical, environmental and economic analysis of alternatives. Issues of technology, performance and cost-effectiveness, facility size, site location, environmental impacts, and facility ownership must be addressed. Facilities may encompass a combination of technologies. The ownership and operation of the facility is to be proposed by the regional planning committee.

A final biomedical waste management plan should be submitted to MOH and MOE within one year of the committee start-up. The committee may contract a technical consultant to assist in the planning and evaluation of options.

3.4

Strategy Support

Information Needed

In order for the regional planning committees to undertake the task of developing a regional biomedical waste management plan, information regarding waste quantities, alternative technologies and biomedical waste disposal costs is required. MOE, MOH and the OHA will undertake the initiatives described below to support the implementation of the strategy.

*Definition of
Biomedical
Waste*

The current definition of pathological waste has been identified as requiring amendment of Regulation 309 under the Environmental Protection Act to better define the waste stream. A committee of stakeholders was struck in 1990 to develop a new biomedical waste definition. This new definition will assist generators in segregating their biomedical waste from general waste. A new definition is proposed and attached in Figure 2. Regional facilities developed under this plan would be sized on the basis of the quantities of biomedical waste generated under the new definition. Review and comment on this new definition is invited as part of this consultation on the regional biomedical waste management strategy.

*Public
Comments on
Definition*

*Waste
Quantities
Study*

To determine waste generation rates based on the new biomedical waste definition, MOE, MOH and the OHA are undertaking a Waste Quantities Study. From this study, waste generation rates would be provided to the regional planning committees for use in sizing disposal facilities.

*Regulatory
Amendments*

A number of provincial regulatory amendments such as Regulations 461/86 under the Public Hospitals Act and Regulation 309 under the Environmental Protection Act may be required to facilitate strategy implementation. Currently under the Public Hospitals Act, MOH may only fund 100 percent capital costs for the replacement of incinerators. Therefore, amendments to the Public Hospitals Act may be required to allow for the capital funding of non-incineration technologies for regional facilities. The current definition of pathological waste in Regulation 309 under the Environmental Protection Act will also be amended and renamed biomedical waste.

*Operating and
Performance
Criteria*

To support the use of non-incineration technologies, it is necessary to evaluate and provide information to regional planning committees and the private sector on the technical viability of alternative technologies. MOE, MOH and the OHA are currently reviewing commercially proven non-incineration technologies established in other jurisdictions. Available testing and performance data is being reviewed to assist in the development of operating and performance criteria. Autoclaves, microwaves, macrowaves, shredding / disinfection (Hammermill) and technologies are currently being reviewed as alternatives to incineration. MOE, MOH and the OHA will provide technical and operating criteria to the regional planning committees at the outset of the planning process for the non-incineration technologies approved.

To facilitate the implementation of the proposed strategy, it is necessary for MOE, MOH and the OHA to assess waste quantities and non-

incineration technologies. The current costs and practices related to biomedical waste management will be assessed to determine possible offsets in operating budgets of health care facilities. In addition, the capital and operating costs of each new technology must be determined. This information will be provided to the regional planning committees.

3.5

Environmental Approvals

EPA Approval

It is proposed that the technical approval mechanism for the facilities developed as part of the regional biomedical waste management plan be an approval under Part V of the Environmental Protection Act, regardless of whether the facility is a public, private or a joint venture. This approval involves a rigorous technical assessment of the proposal. Any undertakings whether private, public or a joint venture, proposed with the support of the regional planning committee and developed in accordance with the terms of reference principles, would be approved pursuant to the EPA approvals process. Any privately owned on-site treatment facilities would also be approved under the EPA. Any facilities accepting off-site waste and not developed in accordance with this plan may be designated under the Environmental Assessment Act (EAA). The need for the facility, a review of alternatives and type of technology chosen, the site selection process undertaken, and the extent of public consultation in the proposal will be considered by the Minister of the Environment in any EAA designation decision.

EAA Approval

Public Hearings

It is proposed that for approval under Part V of the Environmental Protection Act, there would be a mandatory public hearing where interested or affected parties may further express their support or concerns with the proposal. If a facility requires approval under the Environmental Assessment Act, interested parties can make submissions to the Minister of the Environment before the Minister accepts the environmental assessment, or refers the matter to the Environmental Assessment Board.

Fig. 1 Ministry of Health Planning Regions

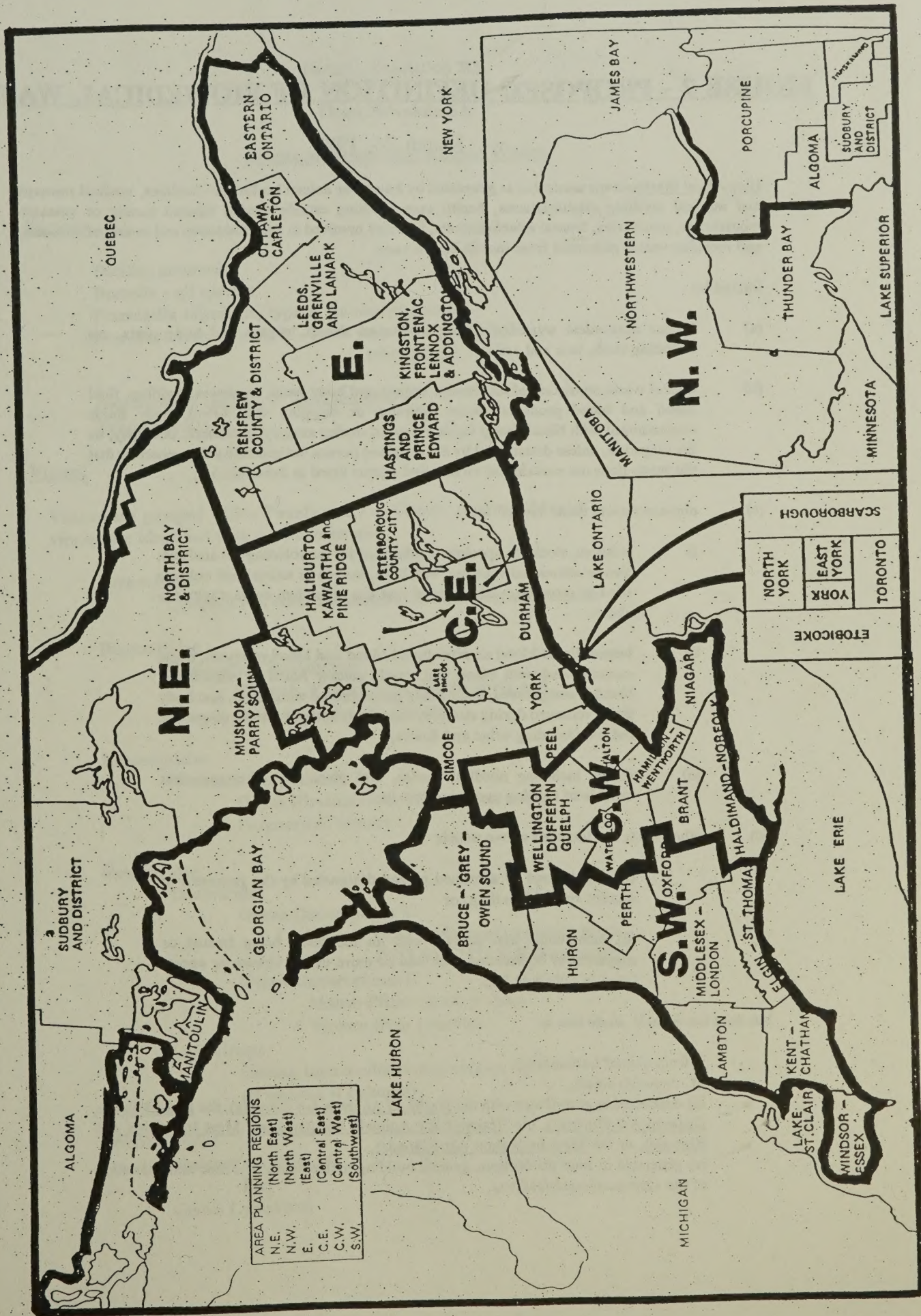


FIGURE 2 - PROPOSED DEFINITION OF BIOMEDICAL WASTE

March 24, 1992

Biomedical Waste means waste that is generated by human or animal health care facilities, medical research and medical teaching establishments, health care teaching establishments, clinical testing or research laboratories, mortuaries, funeral establishments, facilities involved in the production and testing of vaccines, and includes wastes generated from mobile health care;

limited to:

- (a) human anatomical waste consisting of human tissues, organs and body parts, not including teeth, hair and nails;
- (b) animal waste consisting of all tissues, organs and body parts, carcasses, bedding, fluid blood and blood products, items saturated or dripping with blood, body fluids contaminated with blood, body fluids removed during surgery, treatment, necropsy, or for diagnosis, unless determined by the a trained person designated by the generator that the waste does not contain the viruses and agents listed in Schedule 5A;
- (c) non-anatomical waste limited to:
 - i) cultures, stocks or specimens submitted for microbiological analysis, live or attenuated vaccines, cell lines, human or animal cell cultures used in research, and, material that has come into contact with the above,
 - ii) human liquid blood or semi-liquid blood and blood products, items contaminated with blood that would release liquid or semi-liquid blood if compressed, body fluids contaminated with blood, and body fluids removed during surgery, treatment, autopsy, or for diagnosis, but not including urine and faeces,
 - iii) sharps including needles, blades, and glass or other materials capable of causing punctures or cuts;
- (d) other waste not included above which:
 - (i) are deemed by a trained person designated by the generator to require special handling, or
 - (ii) have come into contact with an individual being treated or suspected to be infected with one or more of the viruses or agents listed in Schedule 5B;

but does not include waste that is:

- i) from animal husbandry,
- ii) domestic waste,
- iii) controlled in accordance with the Health of Animals Act (Canada), the Dead Animals Disposal Act (Ontario), the Research for Animals Act (Ontario), Meat Inspection Act (Ontario), or the Meat Inspection Act (Canada),
- iv) generated in food production, general building maintenance or office administration of the aforementioned facilities.

Draft Schedule 5A

Agents of Biomedical Animal Wastes

Bacteria

Bacillus anthracis
Brucella - all species
Francisella tularensis, type A (biovar tularensis)
Mycobacterium avium; M. bovis (non-BCG strains); M.
tuberculosis

Pseudomonas malleri; P. pseudomallei
Yersinia pestis

Viruses

Viruses are grouped within Family and / or Genus. Anthropod-borne viruses are identified with a double asterisk.

Arenaviridae
Lymphocytic choriomeningitis virus, neurotropic strains

Bunyaviridae
Unclassified Bunyavirus
Hantaan, Korean hemorrhagic fever and
epidemic nephrosis viruses

Herpesviridae
Gammaherpesvirinae
Genus Rhadinovirus: Herpesvirus ateles;
Herpesvirus saimiri

Retroviridae
Oncovirinae
Genus Oncornavirus C
Human T-cell leukemia/lymphoma virus
(HTLV-I, HTLV-II, if cultured)
Genus Oncornavirus D
Mason-Pfizer monkey virus
Viruses from primates

Lentivirinae
Human immunodeficiency viruses (HIV -
all isolates if cultured)

Rhabdoviridae
Genus Vesiculovirus
Piry
Genus Lyssavirus

Rabies, street virus

Togaviridae

Genus Alphavirus**

Eastern equine encephalitis virus

Chikungunya (recent isolates)

Venezuelan equine encephalitis (except
Strain TC-83)

Unclassified Viruses

Chronic infectious neuropathic agents (CHINAs)

Kuru, Creutzfeldt-Jakob agent (also listed
under Level 2; level of the suspected agent
depends on the nature of the manipulations
and the amount of sera, bio/necropsy
materials handled)

Arenaviridae

Lassa, Junin, Machupo viruses

Bunyaviridae**

Genus Nairovirus

Creaman-Congo hemorrhagic fever

Filoviridae

Marburg virus

Ebola virus

Flaviviridae**

Tick-borne encephalitis complex, including -

Russian Spring-Summer Encephalitis

Kyasanur forest virus

Omsk hemorrhagic fever virus

Herpesviridae

Alphaherpesvirinae

Genus Simplexvirus: Herpes B virus
(Monkey B virus)

Poxviridae

Genus Orthopoxvirinae

Variola

Monkeypox

Ontario Regulation 309

Draft Schedule 5B

Agents of "Other" Biomedical Wastes Requiring

Special Handling

Bacteria

Chlamydia psittaci

Rickettsi

Coxiella burnetii

Viruses

Arenaviridae

Lassa, Junin, Machupo viruses

Bunyaviridae**

Genus Nairovirus

Crimean-Congo hemorrhagic fever

Filoviridae

Marburg virus

Ebola virus

Flaviviridae**

Tick-borne encephalitis complex, including -

Russian Spring-Summer Encephalitis

Kyasanur forest virus

Omsk hemorrhagic fever virus

Herpesviridae

Alphaherpesvirinae

Genus Simplexvirus: Herpes B virus

(Monkey B virus)

Poxviridae

Genus Orthopoxvirinae

Variola

Monkeypox

Appendix D - Survey Form

**SMALL QUANTITY
HAZARDOUS WASTE GENERATOR STUDY
SURVEY**

Prepared by

LURA Group
Toronto

for
R.Cave & Associates Ltd.
Oakville

as part of
Environment Canada-Ontario Region's
Great Lakes Pollution Prevention Initiative
on
Small Quantity Hazardous Waste Generation

September 1991

SMALL QUANTITY HAZARDOUS WASTE GENERATOR SURVEY

The information collected in this survey is confidential, and at the end of the Small Quantity Hazardous Waste Generator Survey all survey forms will be destroyed. This survey is part of a study of small quantity hazardous waste generation for Environment Canada - only aggregate data will be provided to Environment Canada.

DATE: _____

GENERAL INFORMATION

Questions #1-2 are to be completed by the surveyor. Please refer to the list of SIC codes, with descriptions of business types, as a guide.

1. SIC code of the business surveyed: _____

At the end of the survey, please identify the business' operational SIC code if it is different from the one identified in Question #1.

2. Operational SIC code: _____

3. Primary type of business operation: _____

4. Number of employees: _____

5. Which of the ranges listed below best approximates your business' total annual revenue?

- A. Less than \$9,999
- B. \$10,000 to 24,999
- C. \$25,000 to \$49,999
- D. \$50,000 to \$99,999
- E. Greater than \$100,000
- F. Information not available

CURRENT HAZARDOUS WASTE GENERATION AND MANAGEMENT METHODS

Questions #6-12

- Use the information on this page as a question guide for Questions #6-12. Responses are to be recorded on the charts provided.
- For the purpose of this survey, a list of 23 Waste Classes has been identified that includes the chemical substances that are commonly used by small quantity hazardous waste generators.

For each Waste Class generated by the business:

- refer to the list of Waste Classes and write the corresponding letter for each Waste Class generated by the business, and examples of Product/Tradename(s), in the appropriate columns on the charts;
- record the appropriate letter code(s) for each question with coded responses;
- please provide additional information to define the answer if it is "other"; and
- please write the appropriate responses in the spaces provided for Question #12.

Indicate the type(s) of use for each type of hazardous material.

- R. Regular business operations
- M. Maintenance of equipment
- C. Cleaning

7. Write the quantity, in litres if possible, of each type of hazardous waste requiring disposal.

Indicate the frequency of disposal for each type of hazardous waste.

- D. Daily
- W. Once a week
- M. Monthly
- Specify the number of disposals per year.

9. Indicate the waste management method(s) used for each type of hazardous waste, classified under Waste Management Class.

- G. Garbage/dumpster
- A. Sanitary sewer
- T. Storm sewer
- O. On-site treatment
- S. Self haul to landfill
- P. Pick-up by registered hauler
- U. Reuse
- C. Recycle
- H. HHW depot - personal use
- I. Incineration
- D. Other dumping

If the business stores hazardous wastes on-site please indicate the type of storage methods used for each type of waste generated.

- M. Metal drums, tanks or containers
- P. Plastic drums, tanks or containers
- D. Dumpster or garbage
- L. Lagoon (liquid pond)
- U. Underground storage tank
- O. Other

Indicate the duration of storage for each waste type.

- A. Less than a week
- B. More than a week, less than a month
- C. More than a month, less than 6 months
- D. More than 6 months, less than a year
- E. Indefinitely
- F. N/A

12. For each type of hazardous waste requiring disposal by the business, please provide the following information if the high priority waste management techniques of reduction, reuse, recycling and/or material substitution are used:

- the specific waste management technique and reasons for its use;
- associated cost savings; and
- associated problems or concerns.

If more space is required to record responses please use the sheets provided.

#12 High Priority Waste Management Methods

[illegible]

CURRENT HAZARDOUS WASTE GENERATION AND WASTE MANAGEMENT METHODS (Continued)

[illegible]

#12 High Priority Waste Management Methods

[illegible]

CURRENT HAZARDOUS WASTE GENERATION AND WASTE MANAGEMENT METHODS (Continued)

[illegible]

13. Based on the results of Questions #6-12, is the business a small quantity hazardous waste generator? Please circle the appropriate response.
- A. Yes, small quantity generator. [continue the survey]
B. No, business is above regulations. [continue the survey]
C. No, business does not generate hazardous waste, survey is finished.
[Thank you very much for your time and cooperation.]

HIGH PRIORITY HAZARDOUS WASTE MANAGEMENT METHODS (Continued)

14. In the past, did your business use any high priority hazardous waste management methods of reduction, reuse, recycling and/or material substitution, that are not currently used? If yes, please describe methods that were used and why your business no longer uses these methods.

NO ____ (if no, move to Question #15)

YES ____

Reduction _____

Reuse _____

Recycling _____

Material Substitution _____

HIGH PRIORITY HAZARDOUS WASTE MANAGEMENT METHODS (Continued)

15. Does your business have any future plans to use high priority hazardous waste management methods such as reduction, reuse, recycling, and/or material substitution, that are not currently being used? If yes, please describe which methods are planned for the future.

NO ____ (if no, move to Question #16)

YES ____

Reduction _____

Reuse _____

Recycling _____

Material Substitution _____

HIGH PRIORITY HAZARDOUS WASTE MANAGEMENT METHODS (Continued)

16. If you were to try any reduction, reuse, recycling or material substitution methods in the future, do you foresee any related problems or concerns? If yes, please describe them below.

NO _____ (if no, move to Question #17)

YES _____

Reduction _____

Reuse _____

Recycling _____

Material Substitution _____

17. Where do you get information about new developments in business operations?
- A. Trade shows
 - B. Trade magazines or journals
 - C. Trade associations
 - D. Regular newspapers and journals
 - E. Other _____
- _____
18. In your business, what do you think are the greatest problems associated with hazardous waste management?
- _____
- _____
- _____
- _____

WHMIS LEGISLATION

19. Can you tell me what you know about the Workplace Hazardous Materials Information System (WHMIS) "Right to Know" Legislation?
- NO _____ not familiar with WHMIS.
- YES _____
- _____
20. Are the majority of your employees aware of WHMIS warning labels on containers of hazardous materials?
- YES _____
- NO _____
21. Can you tell me what you know about Material Safety Data Sheets (MSDS)?
- NO _____ not familiar with MSDS.
- YES _____
- _____
22. Are Material Safety Data Sheets (MSDS) available for employees in your workplace?
- YES _____
- NO _____

23. Does your workplace provide worker training on how to use the WHMIS and MSDS information?

NO _____

YES _____

Explain _____

HAZARDOUS WASTE MANAGEMENT OPTIONS

Question #24 lists a number of waste management techniques which involve:

- the disposal of hazardous waste, and
- changes to manufacturing or business operations to reduce or virtually eliminate the use of hazardous products and the generation of hazardous waste.

24. Would your business be prepared to implement the following waste management techniques:

- A. already doing it
- B. no, due to costs
- C. no, too inconvenient
- D. yes, if information is available
- E. not applicable

HAZARDOUS WASTE MANAGEMENT TECHNIQUE	A	B	C	D	E
A. Reduction of wastes.					
B. Reuse of wastes.					
C. Recycling of wastes.					
D. Substitution of less hazardous raw materials.					
E. Substitution of process or equipment that generates less waste.					
F. Hazardous waste collection service.					
G. Hazardous waste drop-off facility.					
H. Annual hazardous waste collection day.					
I. On-site treatment.					
J. Utilizing waste as a product.					

[Response card required.]

HAZARDOUS WASTE MANAGEMENT, DISPOSAL METHODS AND COSTS

Questions #25-34 are designed to identify:

- information on the business' hazardous waste management disposal methods,
- hazardous waste disposal costs, and
- opinions on the business' preferred hazardous waste management, disposal methods and cost options.

Please circle all appropriate responses, or write the response in the spaces provided.

25. Has your business used, or ever considered, any disposal methods not previously mentioned in this survey?

NO _____

YES _____

26. Compared to five years ago, does your business currently generate and dispose of more, less, or about the same amount of hazardous waste?

A. More B. Less C. Same (Go to #28) D. Unknown

27. What accounts for the change in the amount of hazardous waste your business generates and disposes?

- A. Increase or decrease in sales.
B. Change in raw materials used.
C. Change in process or technology.
D. Investment in new equipment.
E. Increased on-site reduction programs.
F. Increased on-site reuse programs.
G. Increased on-site recycling programs.
H. Increased on-site waste treatment.
I. Other. _____

28. Approximately how much of the hazardous waste disposed of by your business results from accidental spills, damaged or returned products?

A. All B. Some C. Negligible D. Unknown

29. Does your business use, or have prepared, any emergency plans in the event of a fire or chemical spill?

NO _____

YES _____

HAZARDOUS WASTE MANAGEMENT, DISPOSAL METHODS AND COSTS (Continued)

30. Does your business currently use a pick-up service to dispose of hazardous waste generated by your business?

NO ____ (Go to #31 on next page, scratch this page)
YES ____ (Go to #31 on this page, scratch next page)

31. How often does your business use the pick-up service to dispose of hazardous waste generated by your business?

A. Once per year
B. Twice per year
C. Monthly
D. Weekly
E. Never

32. Approximately, what are your business' current annual costs for hazardous waste disposal?

A. \$0/Year
B. \$1 to \$99/Year
C. \$100 to \$499/Year
D. \$500 to \$999/Year
E. \$1,000 to \$1,999/Year
F. \$2,000 to \$4,999/Year
G. Greater than \$5,000/Year

33. If available, how often would your business expect to use a drop-off facility to dispose of the hazardous wastes generated by your business?

A. Once per year
B. Twice per year
C. Monthly
D. Weekly
E. Never
F. Not applicable, would continue pick-up service.

34. If available, how much would your business be willing to pay to use a drop-off facility to dispose of the hazardous wastes generated by your business?

A. \$0
B. \$1 to \$99/Year
C. \$100 to \$499/Year
D. \$500 to \$999/Year
E. More than \$1,000/Year
F. Not applicable, would continue pick-up service.

Comments _____

31. If available, how often would your business expect to use a pick-up service to dispose of hazardous wastes?
- A. Once per year
 - B. Twice per year
 - C. Monthly
 - D. Weekly
 - E. Never
32. How much would your business be willing to pay for a collection service to pick-up the hazardous wastes generated by your business?
- A. \$0
 - B. \$1 to \$99/Year
 - C. \$100 to \$499/Year
 - D. \$500 to \$999/Year
 - E. More than \$1,000/Year
 - F. Would not utilize service
33. If available, how often would your business expect to use a drop-off facility to dispose of hazardous wastes?
- A. Once per year
 - B. Twice per year
 - C. Monthly
 - D. Weekly
 - E. Never
34. How much would your business be willing to pay to use a drop-off facility for the hazardous wastes generated by your business?
- A. \$0
 - B. \$1 to \$99/Year
 - C. \$100 to \$499/Year
 - D. \$500 to \$999/Year
 - E. More than \$1,000/Year
 - F. Would not utilize facility

Comments _____

HAZARDOUS WASTE MANAGEMENT, DISPOSAL METHODS AND COSTS (Continued)

35. How do you think hazardous waste management should be funded?

36. How do you think hazardous waste management should be regulated?

- A. Government regulation.
- B. Self-regulation with information provided.
- C. Guidelines through business associations.
- D. Should not be regulated.
- E. Other _____

Comments _____

37. Who do you think should be most responsible for hazardous waste management for small quantity generators?

- A. Government
- B. Small quantity generators
- C. Manufacturers of hazardous materials

Comments _____

38. What needs to happen in order for your business to reduce the amount of hazardous waste it generates?

- A. Substitution of less hazardous materials (responsibility of manufacturers)
 - B. New operating or maintenance methods (information exchange & cooperation with business associations)
 - C. Regulations
 - D. Other _____
-
-
-

CONCLUSION

39. As a small quantity hazardous waste generator, are you aware that you are currently conditionally exempt from regulation of your hazardous waste, but still should use safe disposal methods?

YES _____
NO _____ (N/A)

- 40 a) Do you have any other comments related to small quantity hazardous waste generation?

NO _____

YES _____

- b) Do you have any other concerns, questions or recommendations related to hazardous waste management techniques?

NO _____

YES _____

41. Do you have any comments related to this survey?

NO _____

YES _____

42. Would you like R. Cave and Associates, Ltd., to call you a month from now to see if you have any questions or concerns related to hazardous waste management?

NO _____

YES _____
Business name: _____
Contact Person: _____
Telephone number: _____

Thank you very much for your time and cooperation.

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